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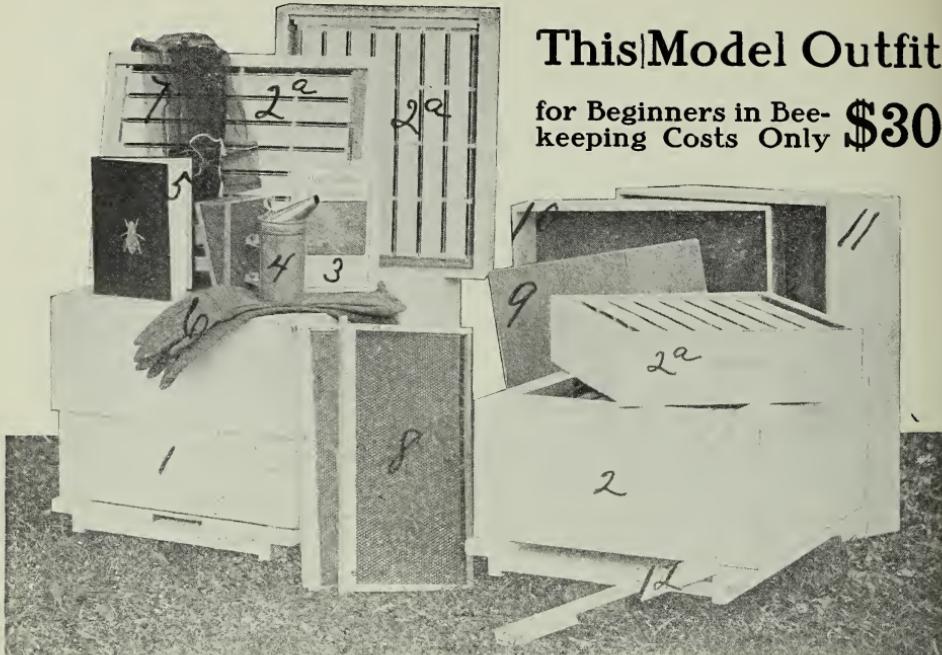
Gleanings in Bee Culture



VOL XI MARCH 1 1912 NO 5

This Model Outfit

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Here is an illustration of a complete outfit for the man or woman who wants to make a start in bee-keeping in a small way. With every thing first-class, and ready for immediate use, and with bees of purest Italian strain (which are included), this outfit will afford a fine opportunity to study the work of these interesting little pets, and prepare for broader developments.

No reason at all why this single colony should not provide an extra swarm for the empty hive the very first season, and under right conditions there will be a nice honey-harvest, too.

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Gleanings in Bee Culture

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NO. 5

Editorial

Now is the time to write your senators and representative, urging their support to parcels post. Do it now. Parcels post will mean much to the farmer, and to all, in fact, except, perhaps, the proprietors of small stores and the big express companies.

SEND postal-card reports on how the bees are wintering. As this has a direct bearing on the price of honey, we hope our friends will respond at once. Confine your reports to two or three sentences on a postal card. Give probable winter losses, and state whether the bees are in the cellar or out. If outdoors, state whether packed or not.

WHEN TO SET BEES OUT OF THE CELLAR.

DR. E. F. PHILLIPS, of the Bureau of Entomology, offers the excellent suggestion that beekeepers consult the Weather Bureau before setting their bees out of the cellar. It is desirable to select a day in advance that will warm up along about nine or ten o'clock, so the bees can fly. It is never advisable to wait until the air is warm and balmy, and then set the bees out, because they will fly out immediately in confusion. The weaker colonies will combine with the flight of the stronger, thus weakening their own forces, and giving the stronger stock bees that they do not need.

The best time to set bees out is the night before the selected day, or in the morning of that day when the atmosphere is cool or chilly. Usually we prefer to set them out the night before, then they will quiet down before morning. As it warms up gradually they come out slowly—not in a great rush.

As a general thing it is not best to set the bees out in two lots on successive days, because the earlier lot is quite liable to rob the ones just set out.

THE OHIO AND INDIANA STATE BEEKEEPERS' CONVENTION.

THE Ohio meeting was held on the 21st, at Springfield, and Indiana on the 22d, at Indianapolis. We managed to take both in. The attendance at both meetings was somewhat small, doubtless owing to the blizzard of bad weather at the time. Dr. E. F. Phillips, of the Bureau of Entomology, gave an illustrated address on bee diseases at both conventions. He showed by colored slides the difference between the larvæ af-

fected with American foul brood and those affected with the European disease. He then illustrated the successive steps in the treatment by shaking or brushing on starters of foundation.

He made the statement that the inspection work, both in Ohio and Indiana, was accomplishing good results. Indeed, Indiana especially, he said, had reduced the amount of disease through its scheme of inspection to a third of what it had been before the law went into effect. He said that there was a similar reduction in the amount of disease in other States where systematic inspection work had been carried on. For example, in New York, when the inspection law went into effect 23 per cent of the colonies examined were affected. This percentage, when inspection was well under way, was reduced to about two or three per cent. While there has been a slight increase of late, the inspectors are holding the disease well in check. Dr. Phillips made it very clear that inspection would never totally eradicate disease, and the most we can do is to hold it under control.

State Entomologist Prof. Shaw, chief foul-brood inspector for Ohio, gave a report showing that foul brood was found in practically all the territory visited by the inspectors. While he had not been able to cover the entire State as yet, it is evident that the inspectors were improving the conditions very materially. Mr. Baldwin, State Entomologist, and chief foul-brood inspector of Indiana, showed that good progress was being made.

The general discussions at both conventions revolved around wintering, and it was natural that it should, for fears were expressed on the part of beekeepers present at each of the conventions that there would be heavy losses during the very severe winter we have just had and are still having; but from general reports that have been brought in, it is apparent that losses will be mostly along about the latitude of Springfield, Columbus, and Indianapolis. In the northern parts of both States the losses would not be as heavy, because the bees were better protected. In the southern parts the winter mortality would be less severe for an entirely different reason—because the climates are milder, and the ordinary single walls of the hives would be sufficient protection.

HOW THE BEES HAVE WINTERED.

It is a little early to get reports; but those we have received indicate that our most northern States and Canada probably will not have severe losses—particularly among those who practice cellar wintering or pack in double-walled hives outdoors; but the bee-keeper, so called, who has been in the habit of letting his bees “work for nothing and board themselves” will probably lose very heavily, even if he does not lose every bee; for the severe winter we have had has had, in the more northern localities, a disastrous effect on colonies not housed in winter repositories or properly protected in double-walled hives or winter cases. The greatest loss will occur, probably, about the dividing line between territory where it is necessary to use protection and territory where no protection is ordinarily needed. That means that losses will be most severe in latitude 40. South of that line, say Southern Kentucky and Tennessee, the mortality will be less severe because of the shorter winter season and the milder winter.

In most cases it is clearly shown than it is an advantage in the Northern States, at least, to put all colonies in good cellars or double-walled hives; yet, notwithstanding, a couple of men at the Springfield convention reported that they put their colonies in single-walled hives, and they were wintering splendidly, while one of their more careful neighbors was losing his bees in double-walled packed hives. But it is the exception that proves the rule.

SOME OBSERVATIONS ON WINTERING AT MEDINA.

On the 13th and 14th of the past month the severe weather began to moderate, and on the 15th and 16th we took a look through the bees at our several outyards and at the home yard. In the Harrington yard there was not a single colony lost, notwithstanding we had more reason to fear that yard than any of the others. The bees were nicely put up and well housed; but the individual colonies, with some few exceptions, were weak.

At the Clark yard there was a loss of only two colonies out of some eighty odd. In one case the super cover had got tipped back so that cold air blew in right over the bees, and actually chilled them to death. In the other case the cluster got into an open feeder with syrup, and half of the bees were drowned. The reduced force was not able to stand the cold.

At the home yard, which had been used for filling orders for queens and bees in the fall, we found a little different story. We first commenced on two rows at the north end of the apiary, comprising some colonies that had been made up late. Indeed, they were aggregations of little clusters from several hives that had been united. The bees, however, were well housed; but their entrances were facing north. Something like seven or eight of these colonies were dead outright, and the others were weak. Where they were dead it was noticed that snow had blown over the entrances, and that moisture

from the clusters had caused the snow to melt and freeze, thus hermetically sealing the entrances. In some other cases dead bees had clogged the entrance, their carcasses being jammed in tight so there was no chance for escape. In most cases, where the entrances were clogged or sealed tight, the bees were either dead or in bad shape. In either case it was apparent that the clusters had scattered in order to get air, had died, and dropped down on the bottom board. Late-made-up colonies do not, as a rule, winter well because they lack the stability of an old colony that has the real colony spirit.

When we went through these two rows we were somewhat alarmed; but on going through some of the other colonies, “the old stagers,” that had gone through the season, and whose life had not been sapped by pound orders, we found conditions much better; but still the bees at the home yard were not in nearly as good shape as those at the two outyards already mentioned. The reason for this is, doubtless, owing to the late disturbance in filling orders and feeding and doubling up to make up. The basswood apiary was in about the same condition as the home yard, and that, too, had been used to some extent for filling orders.

The Brunswick apiary was in the worst condition of all. This yard consisted of late-made-up colonies, and all were supplied with the so-called golden Italian queens. The hives protected by winter cases were placed on a side hill facing southeast; but the location was evidently bad because of the fact that the wind blew over the hill in the rear, and then apparently meeting some counter-current was deflected into the entrances of the hives. How do we know this? In many of the colonies we found snow that had blown in at the entrances reaching clear up under the frames. The entrances were closed, and the mass of snow below the cluster seemed to be too much for the bees, for a third of them were actually dead, and another third will probably “throw up the sponge” within two or three weeks. The golden Italians hatched out in the fall; and as they were young bees we naturally supposed they would be able to stand more cold than the older leather-colored Italians; but as a matter of fact the exact reverse was true. Our Mr. Spafford reported that the extra yellow bees seemed to be the first to die. The leather-colored bees, though much older, were standing the cold much better. This only confirms the experience and reports of former years, that these extra goldens are not good for outdoor wintering. It is very seldom that we have been able to winter them; and why they should die before the darker Italians is not easily explained, unless it is because their hardiness has had to give place to color.

THE IMPORTANCE OF WINDBREAKS; THE RIGHT AND WRONG KIND; SOME FREAKS OF THE WIND.

The question of wind exposure to an apiary is a matter of no little importance.

Sometimes the windbreak will check the force of a winter's blast on one, two, or three rows, but deflect it on some other rows where it does a lot of damage. For example, our Harrington yard this year was moved about a thousand feet to the south and east of its previous location where the winter losses in previous years were too high. The old spot had a bad wind exposure from cleared land on all sides. This year the bees of this yard were placed in the center of an old orchard with numerous brush heaps around the outside of the apiary. They looked unsightly, but "handsome is that handsome does." We are beginning to believe that a solid wind-break, as a high board fence, is not as good as one through which the air may sift and spend its force. Notice how the railroad companies are now using open fences rather than solid ones to keep snow off their tracks. When a winter blast strikes a solid wind-break like a tight board fence the force is liable to glance and strike some other colony or colonies, doing considerable damage. At our north yard, for example, there is one row that seemed this year to suffer more than the others. This has been observed for several seasons. At our home apiary we have discovered certain locations where colonies, no matter what the strain or strength, seemed to suffer more than others. At the Brunswick yard, owing to the conflicting air currents, it was evident that the location as a whole was very bad; for how else could snow be driven into the entrances of many of the hives so that it would be two or three inches deep on the bottom of some of them? These hives had contracted entrances, $\frac{3}{8} \times 8$.

CAN CLUSTERS MOVE DURING MIDWINTER?

Another interesting thing we observed was that, even during the very severe protracted zero weather, clusters of bees would move from one part of the hive to the other. By lifting the chaff tray we could easily tell the location of a cluster by placing the hand on the super cover. In one particular case one cluster of bees during the early part of the zero spell moved from the front of the hive to the rear, then over to one corner. An examination on the 16th of February showed that these bees, after all their shifting about, were in fine shape. This would seem to indicate that the old notion, that a cluster can not move during zero weather, is a mistake. Apparently the bees have the power of increasing their temperature so that they can move to "pastures new." On the other hand, we have found clusters stoned dead with all their stores eaten away from around them, yet with plenty of stores in the hive. Why these clusters did not move over to pastures new we can not say. Perhaps you may ask how we knew the clusters moved. This we determined by the changing of the temperature as indicated by the thermometer. For example, a thermometer was put in the back end of one of the hives while the cluster was in the extreme front. The internal temperature of this hive varied anywhere from 20 above zero to 75, while the outside temperature was down to zero

and below. When the mercury went up to 75 we thought there must be some mistake, because it was 7 below zero outside. We came back late in the afternoon, and the mercury outside had dropped down to 10 below; but the thermometer showed 75 as in the morning. We were curious to know why this was so, and finally lifted the cover off the super. The bulb of the thermometer had been right down in the center of the cluster. Mind you, this temperature of 75 was taken without disturbing the cluster in the least. This goes to show why that ball of bees could move from one part of the hive to the other. It had vitality. Now, then, the cluster that remained stationary, and starved, yet had stores within one or two inches, must have lacked vitality or something.

Some years ago Mr. G. M. Doolittle, if we are correct, reported that the internal temperature of a cluster of bees one winter was up to 98. We have never found it to be above 75. The apparent discrepancy may be explained by the fact that Mr. Doolittle's bees had probably started brood-rearing.

SIZE OF ENTRANCES.

There has been considerable discussion on this point. It is our opinion that the matter of locality and wind exposure will have to decide this very largely; but in most localities the consensus of opinion favors a contracted entrance $\frac{3}{8} \times 8$. A 1×2 inch is liable to let in field mice, and these pests play havoc with wintering colonies. In two or three cases this winter we observed that, where the entrances were wide open, $\frac{3}{8}$ by the width of the hive, the bees were much worse for the experience. We have observed the same thing year in and year out, and yet we have no quarrel with one who says he can get better results with a very large entrance. His locality probably makes this right for him.

SEALED COVERS VERSUS ABSORBENTS.

We are inclined to the opinion that a cover board of thin wood laid on the top of the brood nest, without sealing, is better than where it is sealed down tight. While this may be a concession to the upward-absorbing-packing fellows, yet we are always open to conviction, and we find that covers not sealed down allow a certain amount of moisture to escape through the cracks, and yet not enough to make the packing above wet or damp. This matter of absorbents versus sealed covers is largely one of locality. In very cold climates, if the opinion of good beekeepers is of any value, we would say, use the absorbent plan; but the packing material should be light and loose, so the moisture can escape, but not enough of it so that the heat may get away too.

ENTRANCES FACING NORTH.

We noticed in most cases where the colonies faced the north that they were not in quite as good condition as those facing east or south. A few were dead outright. While we do not think the north exposure was entirely responsible for this, it contributed to some extent to the result.

Stray Straws

DR. C. C. MILLER, Marengo, Ill.

B. MICKWITZ, Borga, Finland, has sent me samples of furniture nails with porcelain heads which he has used with satisfaction as spacers for brood-frames. I have also used them, and they do good work, but not so good as the heavy shingle nails.

DR. WILEY comes out on top—given a clean bill of health and a free hand. Hoop-de-dooden-doo. Good for Dr. Wiley! [Hold on a little. Dr. Wiley's enemies are more active than ever. Unless the press of the country continues to stand back of him they may get him yet.—ED.]

CHICAGO papers report an Orpington cockerel at the poultry show, Dec. 15, valued at more than \$2000. A rooster hardly averages the value of a queen-bee. Yet some will maintain their equilibrium at mention of \$2000 for a rooster and throw a fit at mention of \$200 for a queen.

TWO MAIN divisions of Italian bees, leather-colored and five-banded, page 90. That may be all right now. Before there were any five-banded we had leather-colored and light Italians. [As we have before pointed out, the name "five banders" is a misnomer in most cases. We do not believe there are a dozen colonies showing *all* five banders in all the United States.—ED.]

THE EDITOR of GLEANINGS gives me a lot of trouble, and now D. M. Macdonald is helping him to make life a burden for me. That Scotchman quotes me as saying "Pure Italians don't need even the paper to keep them from fighting" (when one colony is placed over another to be united), and says, *British B. J.*, 514, "Here there would be a battle royal." I don't know of my own knowledge whether Italians would fight or not; but I took your word for it, Mr. Editor, and now you fight it out with Mac and let me out. [Most Italian stock does not require any paper nor any special precaution in uniting—at least that is our experience here at Medina. But there are Italians and Italians. Some of the so-called five-banded bees, and bees from Southern Italy, are very cross. Italians from Northern Italy and Southern Switzerland are usually very gentle.—ED.]

AN AUTOMOBILE is a thing I don't own, and have no notion of getting; yet I'm looking with eager interest for the automobile number of GLEANINGS. So long as I had an out-apriary the thought of the danger from having a horse or horses at the out-apriary or with a load of bees on the road was a constant nightmare, and I could well have paid a good price for a horseless conveyance to be rid of that nightmare. Especially do we want to know the cost for upkeep as compared with horses. By the way, I wonder how many bee-keepers pronounce "automobile" correctly. In this locality

it's generally pronounced au-to-mó-bile. The dictionary says au-to-mó-bile is the adjective and au-to-mó-bilé the noun. An au-to-mó-bile vehicle should be called an au-to-mó-bilé. Or, perhaps, better still, some shorter name. [The dictionary, so far as it relates to automobiles, is behind the times, or, rather, this is a case where an industry has made such rapid advances in nomenclature that a dictionary four or five years old is necessarily out of date. Take the word "garage." It is pronounced in a dozen different ways; but the strong tendency is to Anglicize all such French words. For instance, "automobile," the noun or the adjective, is pronounced *automob'l*, not *automobeel*. "Garage" is pronounced exactly like "carriage" except the first letter, for the simple reason that we English-speaking people could not, even if we tried, give the French pronunciation. After all, the general present-day usage should be the guide rather than a dictionary that attempts to reflect such usage.—ED.]

MR. EDITOR, I recant, I retract, I back down, I take it all back. From your private letter I learn there is much honey put upon the market whose imperfections at top and bottom of sections are not concealed when three-inch glass is used. For such honey two-inch glass is better. (Please pass the humble-pie.) Still, you might allow me to continue three-inch glass for the sort of sections that grow "in this locality." [We see no reason why you should recant and take it all back. Personally you like the looks of your honey behind three-inch glass because it is of high enough standard so that it looks well; but a great deal of the honey thrown on the market is enough below grade so that it looks better behind a two-inch glass. Does this suggest deception? Not if we understand conditions properly. A section out of the case below No. 1 grade looks far better than the same section put behind a three-inch glass in a shipping-case with other sections of the same filling. When the below-grade section is out of the case its defects do not seem to be quite so apparent, because it is easy to see that it is all filled; but when it is put behind a three-inch glass it looks just lean enough to make it appear under weight. When placed behind a two-inch glass it looks much better—that is to say, the buyer will size it up at its real value.

But your honey is above No. 1 grade and better—at least what we saw in the New York market was some of the prettiest comb honey we had ever seen. It would look well, even behind four-inch glass. So we see no reason why you should recant unless your original statement applied to all honey put up indiscriminately by producers generally.—ED.]

NOTES FROM CANADA

J. L. BYER, Mt. Joy, Ont.

The old question as to whether we should shovel snow away from the entrances of hives or not will be puzzling many at present. We cleared snow from in front of some of the hives, and since this terrific cold spell has come we have been wishing we had not done so. A few days ago I went to the Cashel yard intending to clear the entrances; but on lifting up the packing from a number of colonies, and seeing them so quiet, I decided to leave them alone. Needless to say, the decision has not been regretted. As long as the entrances are clear of ice, I believe that good rather than harm will result by leaving the snow around the hives during extremely cold weather.



Mr. Davison, of Unionville, a very successful beekeeper in this locality, has a contrivance that fits over the entrance something like a vestibule, which prevents clogging of the entrance, and at the same time insures an air space around the hive, and will allow the bees to carry out their dead if they wish. Then if the snow does not drift over the fronts he piles it there doing cold weather. Last week I visited the yard, and the hives look like snow mounds more than any thing else. He is one of our best winterers, and for a year like this the plan is all right. Even without the snow, the contrivance is an excellent feature in that it prevents the wind going directly into the hive, and also keeps the sun from enticing out the bees during cold spring days when they are better inside.



On page 90, Feb. 1, I notice that the Board of Supervisors of Imperial Co., Cal., has passed an ordinance forbidding bringing any bees into the county. This is certainly drastic enough. I wonder whether the law would stand the test of a higher court. If a law of that kind were passed for the purpose of keeping out *diseased* bees, well and good; but from this distance, as the law is worded in GLEANINGS, it looks like a very arbitrary measure. Suppose a man were moving into the county for good reasons, and with no intentions of going into beekeeping on a large scale. He has a few colonies of bees in good healthy condition; but because of the law supposed to be in force he is forbidden to bring them in, even if they are just over the "townline" of the said county. It would be human nature to try to test the validity of such a law, and I really should like to see some with enough ginger in them to see what would happen if they dared to take in a few perfectly healthy colonies.



Regarding that article of mine on finding queens, p. 619, Oct. 15, some have wondered why I did not use a taller tent, so that I could have stood erect while at work instead of being forced to be on my knees all of the

time. In explanation I will say that the apiary is in a yard that is full of cherry and other low trees, and it was very difficult to use the tent I had in some cases, to say nothing of one much taller. Some other friends have suggested the idea of getting rid of the field bees before starting to hunt for the queens; and while I had thought of this before starting the work, the robbing tendency of the bees at the time I was there made me fear to demoralize unduly the colonies for fear there would be trouble after the work was done. As intimated in the article referred to, many plans that will work when no robbing is to be feared, are not practicable at a time when no nectar is coming in, and the bees will go wild if hives are opened when not under cover.



When sending in notes for Feb. 1st GLEANINGS I stated that the weather up to time of writing (Jan. 5th) had been very moderate. Since then we have had the most severe winter on record, and the official figures from the Toronto observatory state that January of 1912 had the lowest average temperature they have recorded. Since Jan. 5 we have had nothing like a thaw; and this morning, Feb. 10, the thermometer is 25 below zero—the lowest I have on record for our locality. With six weeks of steady cold weather, certainly things are not looking any too well for bees which have been wintered out of doors; but an examination shows that the bees in packed hives are wintering well so far as external conditions indicate. By the way, I have 20 colonies wintering outside in hives made of double boards with cardboard between—no packing on sides or ends of hives, but an abundance over the frames. There will be a different story to tell about them; and for the present, suffice it to say that they are veritable ice-boxes, and I am having a big time to keep the entrances free from ice. At a later date I hope to say more about these, for just at present I would have to do too much guessing to give any thing like a reliable report. Yesterday the thermometer stood at 14 below, and, as already stated, this morning it is 25 below. As I had not looked at the thermometer inside the hive for over a week I thought it would be well to see how things were going after two days of such very cold weather. The reading was 31 above, which makes a difference of 56 degrees between the outside and the inside of the hive. The thermometer was at the outside of the hive about 3 inches from the side of the cluster, and was suspended in the hive with the top slightly below the tops of the frames. Possibly the difference between Medina readings and mine may be accounted for by the depth the thermometers hang in the hive; for, the lower they hang, the colder they will register.

Bee-keeping Among the Rockies

WESLEY FOSTER, Boulder, Colo.

Twenty-five days' work for each one hundred colonies should be all that is required during the year. A careful system is necessary to accomplish this, but there are men who are doing it. With the aid of autos the number of working days may be reduced, no doubt. One of the chief causes of lost time is unfavorable weather just when out-apiary work is to be done; for if a rain starts in while at the outyard all one can do is to rest and wait, or go home, unless there is a shop where beework can be done.



CLIPPING QUEENS—DOES IT PAY?

Here is a point worthy of thought: The largest and most successful honey-producers do not clip their queens. These are the men who sell from one to two carloads of honey a year, and have the largest bank accounts. You will notice that I have said *producers*. The men would probably not claim to be the best beekeepers, but they carry on their operations on such a large scale that they do not have time to hunt up queens and clip them. They claim that it does not pay them with conditions as they are in Colorado.



BEEKEEPING IN COLLEGE COURSES.

Agriculture is fast being introduced into our schools, and nearly every high school now has domestic-science and manual-training courses with a fine equipment. There is a dearth of scientific beekeepers; and if we could get courses introduced into our schools of agriculture it would advance the industry very much. What would it be worth to the State if in every agricultural short course the principles of beekeeping could be taught? It would raise the status of the average beekeeper very much.

It is simply up to the beekeepers in every State to take up this matter. We are going to have something very soon now in Colorado, and we shall be able to train our young people—some of them at least—to keep bees right. Colorado is a ripe field for better bee-men, and we must have them to do our industry justice.



THE CENSUS AND COLORADO BEEKEEPING.

Colorado lost 20 per cent of her beekeepers (about a thousand) in the ten years from 1900 to 1910. During that time, however, she gained 20 per cent in bees, or about 11,000 colonies. The value of bees increased from \$195,000 to over \$300,000. Foul brood has to take most of the blame for the loss of beekeepers, although the specialists have been buying the small beekeeper out in many instances. I doubt very much whether the figures given are very accurate, as

there are many bees kept in towns, and then some bee-men would be slow about giving in the full number of their colonies for fear the assessor would get hold of the list; for many a farmer would be suspicious as to whether it was merely for the federal census or not. The census, nevertheless, has given the general trend of Colorado beekeeping in a satisfactory way.



"THE CHANGING ORDER."

The expensive methods of distribution are not going to last much longer. There is a determination on the part of the consumers to deal as directly as possible with the producers. Witness the work of Mayor Shank, of Indianapolis, and hundreds of others scattered over the country. Many cities are establishing or have established municipal markets where the producers can take their produce and sell directly to the people. Whatever plans the National Association undertakes, it will be well to adapt the procedure to the marketing movements of the times. An economical method must be devised to supply each market with the honey it demands, and to keep all supplied and none overstocked. The method of consumers in going to the markets with their baskets is too wasteful of effort. Buying clubs or associations will work better. There are buying associations already in operation, and it would pay some of the beekeepers to get in touch with them to reach these consumers.



GARDEN, ORCHARD, POULTRY, AND BEES.

When is a beekeeper not a beekeeper? When he allows the bees to work for nothing and board themselves, while he farms, gardens, and raises stock. This need not be, for some of our very best beekeepers raise poultry and have a profitable garden, and some of the largest producers of honey raise, in addition, apples, potatoes, or onions by the carload. Colorado has lumbermen, stockmen, farmers, fruit men, and business men all successfully interested in bees. Several bank presidents got their start with bees, and there are several bank directors who are keeping bees for the money there is in them. I like to see a man, though a bee-keeper, who is alive to the possibilities about him. I would just as soon work in my acre orchard as with the bees, and sometimes I like it a little better. The principal part of one's living will come from the garden vegetables, apples, plums, and strawberries. The cow and chickens help out, so that, with the cull honey that is not fit to ship, we find that the grocery bill is easily cared for. The main honey crop and the shipments of apples will be used to build the new house or to extend the business.

BEEKEEPING IN CALIFORNIA

P. C. CHADWICK, Redlands, Cal.

CALIFORNIA STATE BEEKEEPERS' ASSOCIATION REPORT.

On February 8 the 22d annual convention of the California State Beekeepers' Association ended its three-day session. Every thing considered, this was the most business-like and harmonious session of its history.

The way for many needed reforms was blazed, and plans which were made were left in the hands of competent committees for further advancement. Needed laws were drafted, helpful resolutions were passed, and, best of all, between the North and the South the hatchet is said to have been buried.

To enter into the details of proceedings would be a great task, and much of it dry reading, so I will merely state briefly some of the work done.

Every one who was on the program, and could be present, did his part well; but some special recognition is due to certain members whom I shall name. I wish to mention one man especially, who, though not alone in the work, certainly had most of the burden upon his shoulders—Mr. A. B. Shaffner.

The treasurer's report showed a neat balance, which in itself indicates the prosperity of the association.

Mr. G. L. Emerson's paper, "One Thousand Members in 1912," was one that commended itself to every member present. His ideas of individual work for the increase of membership, crop-report recommendation, and a perfect organization collectively were timely, and to this end a subscription was started to raise funds that we may be able to coöperate with other organizations of the State. Mr. Emerson explained that there is no feeling against the northern association.

Here I might add that, as every member can vote by proxy, it seems that there should be no longer any trouble about representation; for one man from the north can take every member's proxy he may secure, and vote it as he sees fit.

At the evening session on the 6th the lecture, "Some Wonders of Our Little Co-workers," by Prof. Ralph Benton, was the best of its kind I have ever heard. He described and illustrated the anatomy of the bee. Mr. Benton is, without doubt, the scientific man of our association. His lecture was not as fully appreciated, however, as it should have been, for some take but little interest in the scientific part of the industry. On the other hand, those who were interested were intensely occupied in thought during the lecture, and had only praise for Mr. Benton.

Perhaps the special feature of the morning session on Feb. 7 was "Queen Rearing," by Henry Perkins. This subject seemed to

appeal to the members at this time especially from the fact that European foul brood is spreading in our Southland and queen rearing and introduction have a special part in the eradication of this disease.

One topic of the afternoon session was "The Black-brood Epidemic," by J. D. Buxby, who is now a recognized authority on this disease. His remarks were eagerly listened to; and in closing, when he exhibited two frames of diseased brood nearly the entire assembly made a rush to examine them, indicating to what extent beekeepers are exercised over black brood or European foul brood.

The report of the county inspectors was made at this session. The remarks of Wm. H. Allen, of Ventura Co., and J. E. Pleasants, of Orange Co., were exceptionally valuable, as they dealt primarily with facts regarding the number of colonies inspected, and the diseased colonies found in this and previous years, showing the progress of the inspectors in their work.

The election of officers resulted in the choice of Mr. J. W. Farree as president, and the unanimous re-election of the secretary-treasurer. Of our president I can no better express my thought than to say he is a live wire—efficient, energetic, and enthusiastic—meeting work half way.

The session closed with reports of various committees and delegates. Many topics of interest, on which I have no notes, may appear later in this department.

The practice of California honey dealers in quoting honey at ruinously low prices, simply to lower a local market for their benefit, was unanimously condemned. In the future, beekeepers will be on the lookout for such dealers.

The committee on forest reserves made a recommendation that, if secured, will put beekeeping on a par with some other industries on forest reserves.

The loss by death of so many prominent bee-men of State and nation was noted in suitable resolutions. Some changes in the constitution were recommended and adopted.

A resolution introduced by G. L. Emerson, asking the county board of San Bernardino County to remove the bee inspector of that county for sufficient cause, was adopted.

Mr. Delos Wood was voted life membership in the association. This veteran of the rebellion and of the bee business, now in his seventies, has suffered the loss of practically all of this world's goods by fire, including apiaries whose value reached the thousands.

[It has been stated that there are 50,000 colonies in Los Angeles Co. alone. This gives an idea of the extent of the industry in California.—ED.]

Conversations with Doolittle

At Borodino, New York

SUCCESSFUL BEEKEEPING

"I am a man with limited means, and must do something to make a living for myself and family. I have fallen violently in love with bees, and have ten colonies. I have been wondering whether I could not build up in the bee business till I could make enough of a success of it so that I could spend my whole time caring for the bees, and thus be doing something that I like. Therefore I take the liberty of asking you to say someting along this line in GLEANINGS."

"The one thing in your favor is your love for the bees. Occasionally one may be successful when going into a business which he is not in love with, simply because he enters into it for the money he hopes to make out of it; but this is the exception rather than the rule. Except to the man who has missed his calling, there is real fun and play in all of the energy put into that pursuit which one has chosen. I have known people to be so engaged in their pursuit, and to love it so well, that the most exciting ball game was more tame to them than the same time spent wielding the hoe in some favorite field of potatoes. Scores of others exert themselves in playing ball throughout some sultry afternoon, calling it the height of fun, thereby wholly unfitting themselves for the next day's work in the field, doing scarcely half of an average day's work, and considering what they did do as only drudgery. It would be easy to prophesy that "successful potato culture" will not be written opposite the name on the score of such at the end of life's journey. Therefore, this axiom can be laid down: 'To be successful in any calling in life, the one entering it must have a love for that calling.'

"Notwithstanding this axiom, it must be further said that, from the calling chosen, at least enough must be derived to support the one working at it and his family. Otherwise, there must sooner or later come a turning from that calling unless financial aid comes from some other source. I remember a well-to-do man who went into beekeeping for the love or pleasure there was in it, using this same beekeeping as a side issue as he called it. A year or two later he was telling of the added profit that came to him from the bees. I remarked that I understood he was in the business for the pleasure there was in it. 'Right you are,' he said; 'but the greater the profit, the greater the pleasure.'

"I must confess, as I look over my forty-two years of life as a beekeeper, that, while there has been a rare pleasure in the work (Mrs. Doolittle has often said, after calling me again and again, that I think more of the bees than I do of my dinner), that my main object has been to gain a livelihood and to secure money for the comforts and

pleasures of life. And while I have taken great pleasure in my bees *all* of these years, and from this life in the open has resulted the robust health that can not be gotten in any business requiring indoor employment, yet neither pleasure nor good health would have kept me faithful to beekeeping had there not come from it a good living, and something besides for 'a rainy day.' And I am as free to say that I consider it doubtful whether any beekeeper will ever reach the financial stature of a Morgan, Vanderbilt, or Gould; yet if rightly followed, and with a love that will keep one at it through seasons of failure in nectar secretion as well as in prosperous seasons, apiculture will prove as remunerative as almost any other branch of agriculture. But without the necessary *love* for the bees the poor seasons, as we call them, when the 'heavens seem as brass' throughout the time of all nectar-yielding flora, discouragement is sure to come, the business to be neglected, and blasted hopes and failure are the outcome. Thus it is that this *love* part in any business is the anchor which holds through storms, and makes success certain when the 'clouds roll away.'

"And the chances of success *every* year are much better in these days of comparative swarm control, trolley lines, and automobiles, than when we older ones started. It is a rare thing that an entire failure of nectar happens over a large area of country; and very many times when there has been a partial or nearly entire failure in the secretion of nectar at the home apiary, I have secured at least a fair yield from the out-apiary five miles away, or *vice versa*.

"Now, if it happens that your environment keeps you in a location not blessed with the desired nectar-producing flora, if you are near a trolley line you can locate out-apiaries along this line as fast as your bees increase sufficiently to warrant it. Or if you can afford an automobile, these out-apiaries may be located in any place of abundant nectar-secreting flora, and thus the chances of success be far better than in the slow days of forty or fifty years ago. I can hardly realize the possibilities that are before the young, energetic man of today, who, with a love for the pursuit, goes into beekeeping."

The Double-walled Hive Better Even for the South

I have kept bees in three of the Northern States, namely, Wisconsin, Michigan, and Indiana, and have found the double-walled hive the best for cold weather. I have proved it to my own satisfaction again and again. I am now in Southern Alabama, and I find again that the double-walled hive, when well ventilated, is also the best for hot weather. The air-space gives an even temperature so that no combs are lost by the heat, and the bees do not remain on the outside of the hive on hot days.

Magnolia Springs, Ala.

E. DEUSENBERRY.

General Correspondence

IN WHOSE LOCALITY?

Paper-covered Hives with Large Entrances versus Double-walled Packed Hives with Moderate Entrances; do Bees Prosper in a Zero Temperature?

BY ARTHUR C. MILLER.

So the time has come when one must head every article "In this locality." Forsooth, I thought the veterans at least could remember that, but it seems not. Hold! Ah, ha! Ernest is to blame. It seems that he picked out the boys to make the reply. I wonder why he did not pick some one in Texas.

Little did I think that I was going to step on the pet corns of those Canucks when I wrote that article; and, in fact, I was no more thinking of them than I was of the boys in the tropics. Well, boys, see here. You needn't give up your chaff hives. I'll let you use them as long as you wish. You don't intend to give them up? Well, then, what in thunder are you making all this pother about? You fellows have forgotten—well, never mind what. I'll just ask the other boys to turn to Holtermann's eulogies of cellar wintering scattered through the bee papers. No, Holtermann, I'll not shut up. If cellar wintering is as fine as you so long and so forcefully maintained, why are you now using the formerly contemned chaff hive? I like to hear a man try to explain away facts—if he doesn't stutter.

And there is Byer. Hm! Say! just because you got the better of me once, don't let it make you over-confident. Let me see; you once tried my black-paper plan of wintering and fell down on it. And if memory serves me rightly you modified my instructions *just a little* because you thought I had erred in some points. And now you want to put the blame on me. If I am going to try a man's plan I'll try it just as he gives it; and then if it does not work with me I'll try it with my notions tacked on.

Now, you two boys hug yourselves—and each other if necessary to give vent to your ecstasy—and get all the fun you can. The editor has up his sleeve something else along the line of "cold storage" of bees which, mayhap, will cause you to let up on poor Miller and take serious thought unto yourselves.

After the foregoing was written, GLEANINGS for Feb. 1 arrived, and I have carefully read what is written there. One important point stands out strongly; that is, that a temperature of freezing within the hive when it is zero outside is considered "keeping the bees warm." In my own experience, bees stand and prosper in a zero temperature as well as in one thirty degrees higher.

It is exceedingly hard not to restrict the entrances in the spring, so strong is old belief; and restricted entrance with black pa-

per, when it is unsafe for bees to fly, is sure to bring disaster.

A careful comparison of two apiaries, one of which had the entrances reduced as soon as it was safe to do so, and the other out of convenient reach at that time, and hence left with the full entrance, showed no appreciable difference in results; and as labor which is not profitable is eliminated I now let the entrances alone.

As to the application of black paper: As usually put on, it only partly fulfills its intended purpose. Tied down with string, or secured with a few short pieces of lath, it is of little help. It should be put on so no air can pass under it—that is vital. One can not blow far into a bottle; and if the neck is crooked and the inside filled with obstructions, no draft will reach the bottom; and on such order is the interior of a properly papered hive.

Again, the editor makes a most grievous mistake in likening a cluster of bees in winter to a radiator. They are the reverse of that, and every effort of their life and behavior is to minimize radiation. Study such a cluster, and analyze it and see. Also wax is a very poor conductor of heat, and the combs help materially in maintaining steadiness of cluster temperature.

I note one factor as I see it, or I may be mistaken. It is difficult to be sure from mere description; and that is, that colonies in the regions of prolonged cold seem to go into winter quarters with more bees than they do here. If this is so, it will explain some of the differences between Mr. Holtermann's observations and mine. Also these big (normally there) colonies may tend (have?) to breed earlier than they do here; and that, if so, will explain higher internal temperature.

Another factor is to be noted. The sun is higher at parallel 41-42 than it is at 44-45, and this may be of considerable importance.

Now you boys just stick to every old plan you want to, and jump on any new thing you please, whether it is in "your locality" or not; and the more unnecessary paraphernalia you cling to, and the more needless operations you go through, the easier it will be for me to compete with you.

But you may even yet be right for this locality. We are having the hardest winter for bees in thirty-two years; and if the bees come through it safely under my system, it will be fully vindicated.

Providence, R. I.

[Bees can stand a great deal more cold than we think. There are some conditions under which they may freeze stiff, and yet not be much the worse for the experience. The same is true of fish. Admitting all this to be true, we believe that the bee is essentially an animal that thrives best in a moderate temperature. The inside temperature of our double-walled packed hives,

away from the cluster, varies from 20 above to 75 during winter. Yesterday, with a temperature outside of 2 above zero, we took the reading from a thermometer shoved through the packing into the cluster of bees in one of our double-walled packed hives. The cluster was not disturbed, nor was the hive opened up when the reading was taken. The inside of the cluster was 75. Later in the day we took another reading. The cluster temperature was the same.

While bees under some conditions can stand severe freezes for a short time, our experience at Medina indicates that it is hard on them. If plenty of packing and a double-walled packed hive will make the air surrounding a cluster of bees from 20 to 40 degrees higher than the outside temperature, it imposes a much less strain on the vitality of the bees. We therefore believe that *any* system of protection that provides a difference of only two or three degrees between the outside and inside of the hive would not work in this locality nor any locality in the vicinity of the Great Lakes. Here we are liable to have long continuous cold—not short zero snaps of a day or two.

It is the *long-continued low temperatures*, often accompanied with high winds, that make packing, and lots of it, essential for outdoor wintering. Our correspondent has a different set of conditions, and we do not say that his scheme of winter protection is not the thing for his locality.—ED.]

WHAT THE NATIONAL BEEKEEPERS' ASSOCIATION WILL DO THIS YEAR

BY E. B. TYRRELL

As every beekeeper knows, the meeting of the Board of Directors held in Detroit, January 23, was probably the most important of any board meeting held in the history of the Association. Plans of reorganization had to be considered as well as just what the Association would and should do for its members.

One of the most important needs of the beekeepers, as it appeared to the directors, was an accurate knowledge of crop conditions. To get this, it was decided to send out crop reports early in the season to every member, and, from the information so obtained, advise the members, either directly or through the bee journals, as to conditions.

The Board also found that the question of honey packages was an important one. At the present time there is not nearly the uniformity there should be. No special weight of tin or size of can has been adopted in the past, and many shippers were using a tin entirely too light. Samples of honey-cans were inspected by the Board, with the decision that the Secretary be instructed to make the best possible arrangements for furnishing the members with the tin honey packages the coming season. The orders will be handled directly through the Association office, and will not be sent by the member to the can manufacturers as in the past.

In discussing the question of packages for comb honey, and realizing that there are a number of different kinds and shapes in the market, it was thought best that, in order to promote uniformity of a comb-honey package, the Association should take steps to secure for its members, at the lowest possible prices, the double-tier 24-lb. shipping-case which was adopted by the Association at its last convention.

These cases could be furnished according to specifications, so that every member buying through the National would be using exactly the same case as every other member. In order to induce a more general adoption, it was thought advisable to furnish them at a low price. The secretary was also instructed to investigate paper shipping-cases, as well as glass packages. This action was not taken with an idea of getting into the supply business, but to promote the using of uniform packages by the members, which then will simplify the question of marketing, and eventually raise the price the beekeepers can obtain.

The question of marketing honey was thoroughly considered, and many plans were presented. The one finally decided upon was that, for the coming season, the National Association should act in the capacity of broker for its members where desired. It is not expected nor desired that all members ship their honey through the Association; but realizing that many are not in touch with the best markets, it was thought that no better move could be made than to assist these members in obtaining the proper return for their honey crop. To do this, selling agencies will be established in several of the larger cities, and the sales will be directed through the Association. A member having honey to sell could first get instructions from the secretary, who is expected to keep in close touch with market conditions, take into consideration the freight rates, and then give the member full instructions as to shipment. The association does not intend to buy and sell honey, but simply to assist the producers in finding the best possible market.

The promotion of local branches will be encouraged; and wherever a local branch desires to get out a booklet, such as has been used by the Michigan Association, assistance will be given by the National Association. This feature will be encouraged. The advertising of this booklet will be cared for by the National, but will probably be confined on the start to the four bee journals.

Detroit, Mich.

Failure in Cuba Honey Crop

Both the summer and winter crop of honey have been almost a complete failure here. From 1500 colonies I got, only 110 barrels of 50 gallons each. No rain until May was the cause of the failure of the summer crop, and no rain all summer; then three weeks of it in the heart of the honey season—the cause of the failure of the winter crop. A crop, according to former years, would have been 300 barrels. Moreover, the price was good—from 40 to 46 cts. a gallon in Manzanillo.

FRANK REIMAN.



A summer view of one of Allen Latham's apiaries.

A CONTRARY BEEKEEPER

A Nutmeg Stater who Defies All the Rules of Bee Culture, and Wins

BY ARTHUR C. MILLER

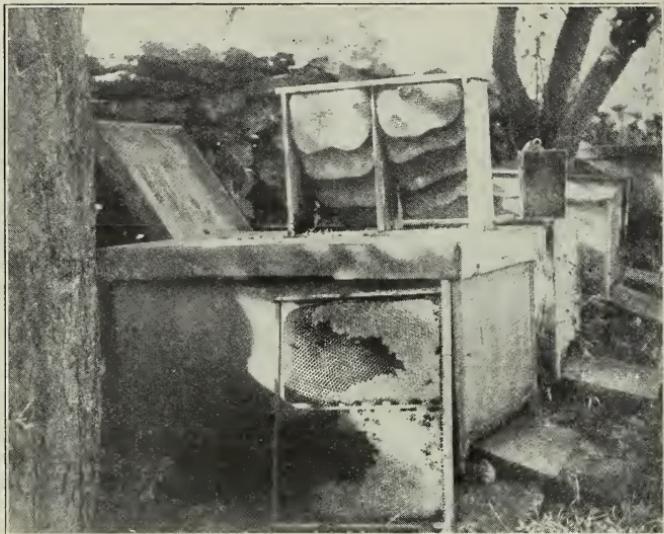
Bee culture is a tradition-fettered industry. As Methuselah said, so must it be; and he who dares preach contrary to the teachings of the fathers is *per se* a heretic, an outcast. Lift your voice in questioning of the established order, and at once you are considered an iconoclast. Blessed be all such, for they are the hope of generations of

beekeepers yet to come. Askers of awkward questions, up-setters of pet theories, disturbers of the peace, shatterers of reputations! May their shadows never grow less.

An adopted son of the community famed for its wooden nutmegs stands preëminent as an iconoclast in apicultural matters, and they call his name Latham. Solid of build, sandy of complexion, he looks out of a pair of twinkling eyes in a manner both cordial and disconcerting. Is it to laugh at you or with you, you know not. State your case most cautiously, lay down the law point by point, establish your position beyond seem-



A part of the same apiary in winter.



Some store combs from Latham's "Let Alone" hive. The four show how the bees "work back," the full combs being next to the brood chamber.

ingly possible dispute, and with one word or one careless question he will turn your carefully builded structure into a tumbling house of cards. Oh! a canny boy is Allen.

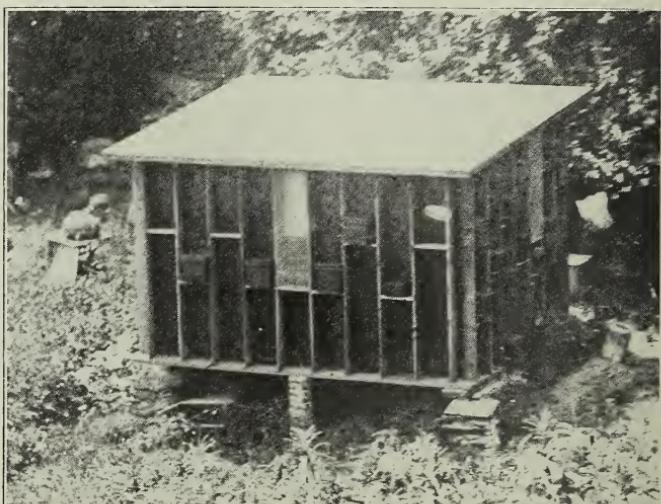
As an observer of bees and their work, he stands second to no one. As a beekeeper he is never content with what he has done, but must do better. And to him, "better" means not only more product and higher quality, but lesser cost, a matter in honey production so rarely spoken of that one may well doubt if it is often thought of. But it is the "motif" in Latham's symphony, and the marvels it has led him to do would fill a book. Tell him that a saving plan which he would adopt is not feasible, and you wave a red rag at a bull. He will do it, even if it is impossible. Keep away from Allen Latham if you want to plod along in the tortuous and shady path of your granddaddy; for if you once get under the magic power of his methods, your days of self-complacency are numbered.

Just think of a man examining his colonies and gathering his crops—bumper ones too—at Christmas time, in bleak old New England. For instance, he this year took the crop from the hives of one apiary on

the 6th day of January, with the temperature at ten degrees Fahrenheit, and the wind at fifty miles an hour. No, nothing crazy or suicidal about it. He has done it for years and is steadily increasing his bees and his crops.

The hive and the system with which he accomplishes this and other seemingly impossible things are well worth a description, and the principles involved are worthy the study of every serious bee-keeper. The "Let Alone" hive and system is the title he has applied, and most fittingly too; for some of his colonies he sees but

once in a twelve month, and then in mid-winter. A big black box three feet long, a foot and a half wide and high, is this hive. At first glance it looks much like the old "Long Idea" hive of General D. L. Adair, and it is and it isn't. The Adair had the entrance in the middle of one side; the "Let Alone" has it at one end. The cover telescopes about three inches down on the body, and the whole is covered with a good grade of one of the asphalt roofing-papers black in color. Nice and cool in a blistering August day, eh? Don't you worry. It



Latham's nucleus-wintering and honey-handling house. The nuclei are shown on shelves between the studding where they are convenient to handle in the summer, away from weeds, and out of the reach of toads and other vermin.



This photograph shows a part of my apiary of 40 colonies under a good shed 75 feet long. I have very little time to work with my bees, but I improve every spare moment I have. This spring I am going to give each colony two supers of sections, and if it is a good honey year I will have plenty.

T. C. HAMBLY, Santa Clara, Cal.

works. Most of the lumber used is half-inch box stock. The floor is nailed on, and has three rugged cleats across the under surface.

In the Adair hive the queen had the run of all the combs; in the "Let Alone" she is restricted to the seven next to the entrance. And the frames outclass the Jumbo, being 17½ inches long and 15 inches deep, with ends and tops "closed." Along the upper part of the hive sides are nailed strips on which the frames hang, and in the lower corners are beveled strips against which the bottom corners of the frames touch, so that, when the frames are in place, the hive is virtually double-walled and air-spaced.

The first seven frames are wired, and fitted with full sheets of foundation; the other fourteen have a vertical bar in the center, are without wires, and are fitted only with starters. Back of the seven wired frames is hung a sheet of excluder zinc, and this serves to separate the brood from the surplus compartment. The entrance extends away across the front of the hive, eighteen inches, and is one inch high. It is permanently guarded against the ingress of mice by a row of wire nails. And it is left wide open for three hundred and sixty-five and one quarter days in the year. Mark that, you skeptics.

The surplus chamber is approximately 17×14×22 inches, and will hold about 150 pounds. If it so happens that the crop is removed in the fall, then it remains empty all winter. A most beautiful way to kill the bees, isn't it? Just think of a colony of bees in the front part of such a box with that great empty chamber behind it, and

eighteen square inches of open doorway! A man who would seriously consider keeping bees in any such fool way as that must surely have something the matter with his brain. Well, he has, but not on the line of foolishness—oh, no! only of progressive thinking and of daring.

It is not enough that he should make bee-keeping in such hives a success in sheltered spots; but he must needs attempt the impossible, so he planted colonies here and there on the upper end of Cape Cod, about the last place on earth to expect success in honey production. And there again he fools you. His reputation for veracity is good; but when he talked of an average of 150 pounds to the colony down on that bleak sand spit, one man at least had to go and see how bees extracted nectar from sea-water. And the honey was there—great sheets of pearly combs full of their golden store, and the bees tumbling in with more.

The gales from the wide Atlantic appear to be impotent against the bees' work in summer or their comfort in winter, for there those wide-entranced hives stand all through the storms and gales, heat and cold. For most of us the bees would promptly become quite dead; but not for Latham. They dare not. That wizard has filled them with such a sense of fear or something, that, whatever he says, they do. He has even persuaded them to abandon the classic "bee-line," and one finds his bees ducking and dodging around the sand dunes and following along the railroad cuts, zigzagging here and there and anywhere out of the wind till they are close to home, when with a dash they plunge over the bank and down into their hives.

The hives are usually stocked by running a natural or artificial swarm into them. The bees are then instructed to set up house-keeping, provide themselves with a proper amount of supplies, and put aside a suitable surplus in return for the care (?) and oversight he has given them. Talk about the high cost of living, and then think of taxing those poor little bees one hundred pounds of honey for the rent of an old barn of a box without any stormdoor on it!

But the insatiate man is not content with that, forsooth, insists upon the bees sorting out

the various kinds of honey for him, each kind in a comb or combs by itself, and the meek little creatures do so, as far as the flows permit. It happens in this wise: The bees fill the brood-chamber and then crowd through the zinc, build comb in half of a frame and fill it, then in the other half, then into the next frame, and so on. He has merely applied his hive and frame arrangement to fit the habit of the insects.

Yes, they swarm sometimes, but not very often; and as most of the queens are clipped they seldom depart, but return and settle down with the young queen, which, of course, is against the rules of the game, but those don't count with Latham.

He keeps bees in the conventional hives, too; has some eighty odd colonies thus; and that he does it well, witness the summer and winter views of one of his yards. His home yard is an interesting place to visit, and there will be found all manner of hives, appliances, and experiments. One of the striking features is a honey-house built "inside out"—that is to say, the studding is on the outside; on the inner face of that, heavy water-proof paper; and within that, matched sheathing. It is placed on a foundation of stone laid dry, and the shallow cellar is open on one side, so that literally the house is hung in the air. *GLEANINGS* for Jan. 1, page 3, says, "Do not winter in a closed room above ground." But Latham winters thirty or forty baby nuclei in this closed room above ground, and has done it ever since 'twas built, three or four years ago. So exceedingly careless of him to do such a thing without consulting anybody!

And those baby nuclei! utterly different from any used by other folks. One nice little entrance-hole, easily defended against robbers, isn't at all to his liking, so he has two such holes—perhaps reasoning that, if



Laughlin Falconer, 94 years old, a pioneer Chicago beekeeper; his son, and one of his assistants.

one is easy to defend, two will be twice as easy. The blooming combination works just because it shouldn't.

To feed them he floods the lower part of the little box (previously water-proofed) with syrup—a jolly nice way to start a robbing scrape, but it doesn't. His nucleus construction and operation is a fine story in itself, and perhaps the editor can persuade him to tell; and if so, let the reader be warned that, no matter how improbable things may seem, or how weird his tale, it is so if he says it, even though every other bee-keeper has tried it and failed.

'Tis jolly lucky for Allen Latham that he lives in the twentieth century rather than in the days when belief in witchcraft ran riot.

Providence, R. I.

BEEKEEPING IN A CITY

A Great Record by a Man who is Now Almost a Centenarian

BY J. L. GRAFF

The accompanying picture show a part of an apiary that has helped to furnish a city now numbering twenty-two hundred thousand people with honey for sixty-seven years, and is still producing 9000 lbs. a year. It not only in a large measure has furnished a living for its owner, but has supported a whole family.

In the last thirty years it has produced 135 tons, and the output for the previous thirty-seven years would run the total production to considerably over 175 tons.

This apiary was started on the banks of the Des Plaines River, Illinois, in 1844. It was started from the capture of a single colony from a bee-tree, and hived in a barrel.

Four years later, all the accumulation of bees and honey was moved to a farm of 160 acres which is now located inside the city limits of Chicago. The man who started this apiary is still operating it at the age of ninety-five years. His name is Laughlin Falconer, and he is assisted by his son, William W. Falconer, who says that there has never been a failure in more than three-score years. There were years in which the production of honey was less than in others, but there has always been a paying quantity after allowing sufficient to winter the bees.

The little workers, during most of the time, have foraged on sweet and alsike clover, and much on a prairie bloom that closely resembles a sunflower.

The bees have always been sheltered in winter in the crude manner shown in the photograph. They are now confined in modern hives, each of which in the cold months is first wrapped in burlap, then in old newspapers, and then a whole bench is buried in leaves, and the leaves confined by weather-boarding—tops, sides, and ends. In late years the whole of the product to be sold has been extracted and disposed of in gallon cans.

This near-centenarian apiarist, however, is but one of a number of city beekeepers in Chicago. Not long ago, at a meeting of an association in Chicago, representing several States, fully 25 out of 150 beekeepers were Chicago apiarists. When the big

drainage channel was built, and huge banks of clay and other material were piled up along the canal, this deposit in a short time was covered with a rank growth of sweet clover; and on this, bees from a wide area of country worked with great results.

One of the mail-carriers of the Chicago postoffice is one of the most successful bee-keepers in the Middle West, operating his bees in an expansive backyard. This man gave considerable attention to the breeding of bees of mild disposition, and he claims to have had noticeable success so that his family are able to use the yard; and pedestrians can pass the place without being attacked by the bees. This apiarist sets up the claim that a good disposition may be bred in bees, just as other breeders secure this trait in live stock.

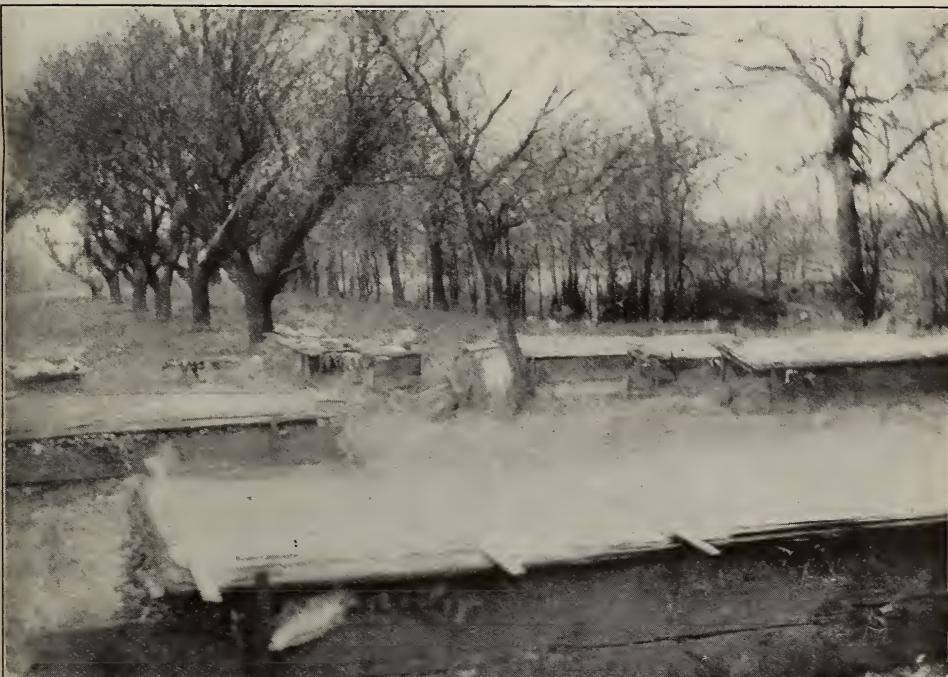
Chicago, Ill.

PREVENTING BEES FROM GETTING THE SWARMING IMPULSE

A Vestibule Attachment Communicating with an "Annex" Providing Extra Room

BY DR. L. A. SIMMON

In presenting this device to the bee-keeping public I am conscious that there is a good deal of skepticism in reference to mechanical devices that purport to facilitate the control of bees. But I am also confident that the invention will produce the same



An apiary in Chicago that has produced, during the last 67 years, over 175 tons of honey.

results for others that it has for me, and therefore meet with general favor. The details of its construction are based on a thorough working knowledge of the instincts and natural activities of the bees, and every step in the system to be described in the application of the swarm-controller in its various uses and functions is made to conform to these natural laws. There is, therefore, no possibility of failure or disappointment except through gross carelessness or neglect of duty on the part of the operator. I have tested it for a number of years, and what I shall say is the result of experience and not theory. It very greatly reduces the labor, and simplifies the processes of bee-keeping.

The control of the swarming impulse during the honey harvest is one of the most important subjects to the beekeeper. In my hands the device has been uniformly successful. I also make increase with it, almost automatically, at will. Transferring is no longer the disagreeable, wasteful, and gummy job it used to be. By the use of the controller, bees are transferred from box hives almost as readily as artificial swarms are produced. As a feeder it has no equal. The apiarist can feed his bees at any time, night or day, as easily as he can feed his chickens or his horse. The feeder is always in place, does not have to be stored away and hunted up again when needed. It requires no attention, and is not in the way. It affords the most natural and efficient means of storing and caring for empty

combs and surplus honey ever devised, and is worth to any beekeeper, for this purpose alone, more than double its cost.

Its principal uses will be described in a series of articles, of which this is the first.

HOW TO ADJUST THE SWARM-CONTROLLER TO THE HIVE.

Remove the $\frac{3}{8}$ -inch cleat at the rear of a Danzenbaker bottom-board, thus making a new entrance. Place the hive-body on the bottom-board and fasten it. Apply the left side of the controller, as seen in Fig. 2, to this new entrance so that it will register with the openings in the side of the controller, and make it fast to the hive with two screws through the holding-cleat. It is fastened to only one hive, preferably to an empty one, which we call the "annex." The hive containing the bees to which this combination is to be joined is prepared in the same way by removing the $\frac{3}{8}$ -inch cleat at the rear of the bottom-board, making a new entrance at the rear of the hive. The annex is now set up against this hive so that the entrances coapt as before on the opposite side. The device, properly positioned between two hives, is seen in Fig. 3.

Here also may be seen on top of the controller two metal slides ready for use, and one provided with a Porter bee-escape used in transferring. Further back on top of controller is seen the cover to the feeder hole. The rear end of the controller is here closed with a movable shutter.

HOW TO PREVENT SWARMING.

The practical beekeeper endeavors to keep his colonies from swarming during the honey-flow. It is then, as a rule, that the swarming impulse develops. Congestion of the hive with bees and honey is probably the principal determining cause, as well as want of room and a crowded house. Before this state of affairs comes

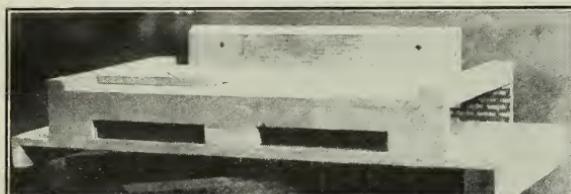


Fig. 1.—Simmon's device for controlling swarming.

combs and surplus honey ever devised, and is worth to any beekeeper, for this purpose alone, more than double its cost.

Its principal uses will be described in a series of articles, of which this is the first.

Fig. 1 shows the general form of construction. In plain words, it is a box with open ends, having a central transverse partition which divides it into two equal compartments. In each side there are two openings, $5 \times \frac{3}{8}$ in., which are the entrances into the hives on either side. The central partition lies transversely across the chamber between these two entrances on either side. The top is 16 in. long, and the bottom is 19 in., giving $1\frac{1}{2}$ in. at each end of the bottom as an alighting-board. The depth of the entrance is $1\frac{1}{8}$ inch. The left-hand entrance is closed with a shutter, converting this end, when adjust-

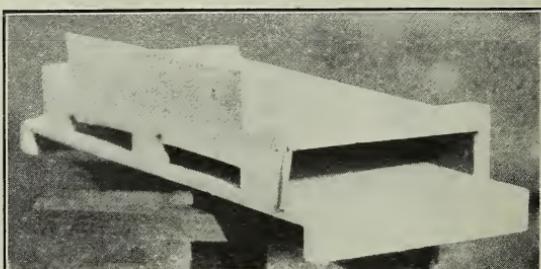


Fig. 2.—The other side of the device shown in Fig. 1.

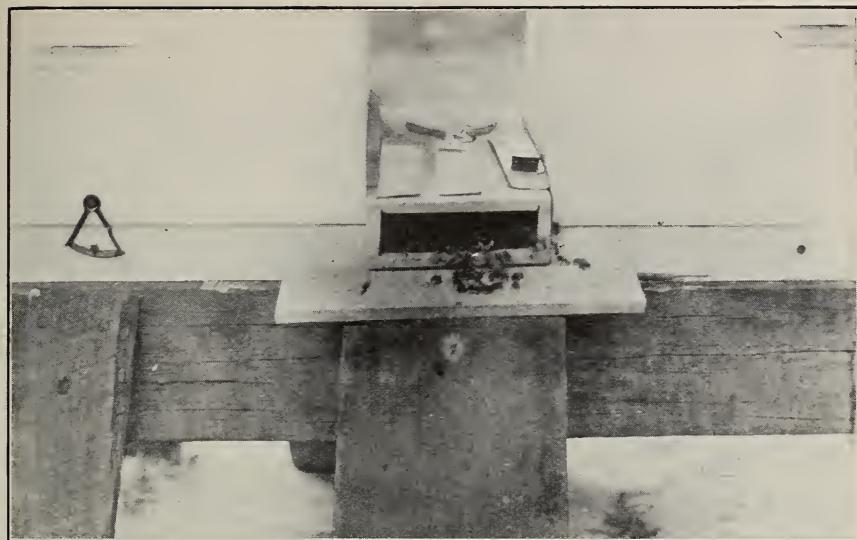


Fig. 3.—The swarm-controlling device in position between the "annex" and a hive of bees.

about I attach the swarm-controller and annex, and make the bees work through the controller.

Referring to Fig. 3, the left hive is the annex, the right containing the bees. The annex is filled with empty combs or full sheets of foundation.

There is now a free passage from one hive to the other through the controller. At the rear it is through a closed chamber; in front, across the front entrance, or *vestibule*, from side to side. The bees immediately investigate this annex, and occupy it with a strong guard. They seem at once to regard it, from the arrangement of contiguity and ease of access as a part of their domicil. In very warm weather, instead of lying out they go over into the annex, where they find room and a natural resting-place. When desired, the original front entrances (now the auxiliary entrances at the extreme right and left of the combination) may be opened to give increased ventilation. Supers are provided early; and as the outside combs in the brood-nest become filled with honey and pollen I remove those and set them in the annex, placing a frame of foundation in the center of the brood-nest, after separating the combs, one for every such comb of honey removed. Building up these combs furnishes employment for a class of workers that probably have something to do with developing the swarming impulse when not gratified. These new combs give the queen added room for breeding. When the second super is well started, and the first is completed, I set it over on the annex. These combs in the annex and the superimposed boxes of honey increase the interest of the bees in this division of their house. There are, during the active season, a great number of workers whose wings become badly worn,

and they are no longer useful in the field, but make excellent guards. These old bees naturally retire to a place of least resistance, out of the way. This annex provides for them a place of refuge, where their presence is of value as guards, and their lives and usefulness are greatly prolonged. There may be conditions under which this method will not prevent swarming; but in my experience they are extremely rare, and not to be reckoned against the system when employed before the swarming impulse is developed.

Auburndale, Fla.

[In the May 1st issue Dr. Simmon will explain how he uses his controller to check the swarming impulse, when once it has been established, by using it to switch the bees into the "annex."—ED.]

TENNESSEE BEEKEEPERS MEET WITH THE FRUITGROWERS AND NURSERYMEN

BY GEO. M. BENTLEY, STATE ENTOMOLOGIST

The Tennessee State Beekeepers' convention was held in Nashville on January 27, and the program carried out completely. There was a good attendance—larger than ever before. This was chiefly due to the convention being held in conjunction with the annual conventions of the fruitgrowers and nurserymen, and through the efforts of this office in advertising the meetings, not only throughout Tennessee but all over the South. The stereopticon lectures by Professor George DeMuth, of Washington, D. C., and Dr. J. S. Ward, of Nashville, were especially entertaining and instructive. Each of these lectures was illustrated by 100 or more perfect slides; and as the lecturers proceeded, every detail was plainly shown on the screen. It was decided that



Hogs pastured in a field of white sweet clover near Delmar, Iowa.

the association meet next year in conjunction with the fruitgrowers and nurserymen, and use every effort to increase the membership.

The legislature of 1911 appropriated \$1000 for apriary-inspection work in Tennessee. The past summer this work has been conducted in Middle and West Tennessee. The coming summer attention will be directed to East Tennessee. The survey of the bee interests in the State as gathered by the State Entomologist is being revised and greatly augmented.

Knoxville, Tenn.

[The Tennessee Association is doing some advanced work along the line of beekeeping, and other associations in the country may well afford to take notice. It is a splendid plan, in more ways than one, to hold the annual convention with the fruitgrowers. From the Secretary, J. M. Buchanan, we received a report of the election of officers which is as follows:

President, W. N. Joseph, Nashville; Vice-president, David Wauford, Alexandria; Secretary, J. M. Buchanan, Franklin.

In a newspaper clipping giving a report of the convention we note that Mr. Buchanan stated, in his address before the convention, that European foul brood exists in Shelby and Robertson counties, and that American foul brood, which is more prevalent, is found in Davidson, Williamson, Roane, and Hamilton counties. Other counties under investigation are Giles, Lawrence, and Montgomery.

The association has now something over eighty members, between fifty and sixty of which were present. There are said to be 36,000 beekeepers in Tennessee. The annual value of the honey crop in the State is nearly \$250,000.—ED.]

HOW TO GET A STAND OF SWEET CLOVER

BY FRANK COVERDALE

After reading what Dr. Miller has to say, page 48 of the booklet "The Truth About Sweet Clover," I feared that he had not been reading my articles in the farm papers, for he says he is not able to get a good stand. Now, a great deal depends upon methods used and the conditions of the soil in which the seed is sown. I have made a specialty of investigations along this line, and making experiments under every conceivable condition; and I have found that it is so easy to get a perfect stand that no one need make a failure. It is quite plain to me that neither Dr. Miller's soil nor his neighbor's has any sweet-clover bacteria in it; and, for that reason, many of the sweet-clover plants will fail to grow nodules on the roots, but will turn yellow and die. If this same soil had been rich in plant food, every one of the sweet-clover plants would have formed nodules and made a perfect stand of luxuriant clover.

Nine years ago I sowed a sixty-acre field to white sweet clover, and also a forty-acre field. Although the plants started, not a single one lived until winter, and the whole undertaking was a failure because of the poor and impoverished condition of the soil. Many others around here lost their seed in the same way. The tables have turned, however, for we are now securing perfect stands of this legume, as shown by the picture of one of my neighbor's fields. His hogs enjoy a continued feast, and they keep it down to about six inches high by continual browsing. My neighbor has a field of alfalfa adjoining this, and he has been changing the hogs from one to the other, but he is much better pleased with

the results from the sweet clover, as it is so much more hardy. He has now bought seed to change his alfalfa-field into sweet clover, as the alfalfa won't stand being pastured. A few more farmers in this neighborhood have secured seed, and will have hog-pastures just like this one.

The field shown is identical with our own, especially our hog-pasture. I have come to the conclusion that every farmer can and should have a hog-pasture like it. Every one around here who has come to my knowledge is very enthusiastic over the success, and is securing new supplies of seed to be sown next spring. This fact speaks louder than any other. My seed is all sold.

Delmar, Iowa.

THE EASTERN NEW YORK BEEKEEPERS' MEETING

BY S. DAVENPORT, SECRETARY.

The Eastern New York Beekeepers' Association held its fourth annual convention Dec. 21, in the City Hall, Albany. Owing to unfavorable circumstances only a short notice could be given, and consequently there was a more limited attendance than usual, only about thirty beekeepers being present.

President W. D. Wright, of Altamont, presided.

The proceedings consisted mostly of routine business and the consideration of technical questions pertaining to beekeeping.

The members reported the past season as the poorest in many years. The production of honey was less than half of an average crop; but with the optimism characteristic of beekeepers, all hold bright hopes for the future.

The secretary's report showed a list of 103 members since the organization of the association four years ago. The treasurer reported a neat balance on hand.

The president, in his address, reviewed the condition of the industry, referring to the very unfavorable season and the shortage of the honey crop, and noting that a material advance in prices had resulted, which, it was hoped, might be maintained in the future. He called attention to the action of the National Beekeepers' Association in reorganizing that body and adopting a new constitution for the working of the association on a new and entirely different plan.

Much consideration was given to this subject, and many expressions of disapproval were offered. It was decided unanimously to take a vote by mail of all the members on the question: Shall we renew our membership in the National Association under the provisions of the new constitution?

The annual election was held, and resulted in the reelection of the entire board of officers as follows: President, W. D. Wright, of Altamont; First Vice-president, A. Johnson, Schoharie; Second Vice-president, C. W. Hays, Brookview; Secretary, S. Daven-

port, Indian Fields; Treasurer, M. A. Kingman, East Greenbush.

This will make Mr. Wright's fifth term as president.

A communication from the Hon. R. A. Pearson, State Commissioner of Agriculture, was read, requesting the appointment of a delegate to represent the association at the annual meeting of the New York State Agricultural Society. S. Davenport was elected as such delegate.

A communication to the State College of Agriculture had been directed to be made, requesting that experiments be made along the line of reducing the length of the corolla of the red-clover blossom, to enable the honeybee to gather the nectar from it. C. B. Loomis, of East Greenbush, presented a communication on the subject from Prof. H. W. Webber, of the State Agricultural College.

C. B. Loomis presented for examination and consideration a sample copy of a writing-pad for the use of schoolchildren, having appropriate illustrations of the honeybee, queen, and drone, and a descriptive article on the honeybee and the desirability of honey as a food. This pad is issued by the New York State Association of Beekeepers' Societies with the object of advertising honey and increasing the sale of it.

A proposition to establish a honey exchange at Albany, for the purpose of disposing of the honey crop of members of the association, was discussed, and a committee of six appointed to investigate, consider, and report.

This gathering of beekeepers proved to be one of the most satisfactory conventions ever held by the association.

Indian Fields, N. Y.

HATCHING OF EGGS DEPENDS UPON CONDITIONS WHICH SUIT THE BEES

BY M. Y. CALCUTT.

I notice that Mr. Wm. L. Couper, p. 660, Nov. 1, takes issue with the editor, and inclines toward Dr. Miller, that a queen very seldom lays eggs that will not hatch. I also am inclined to think that the doctor is right in this respect. I think Mr. Couper must have overlooked the real reason why the eggs mentioned in his article were not hatched by the bees. My experience is from long study with one of the best observation hives which I have seen. The hive is constructed so as to take four single frames, one above the other, having glass on both sides of the frames, with a single bee space between comb and glass, the hive doors opening on the north and south sides so as to let the sun shine through the comb when desired. By throwing a dark cover over myself I am enabled to get a fine view from the north side, with the sun shining through from the south, especially when I have a new white wax comb.

I have found that eggs do not hatch until the bees want them hatched; and when

things are not just to their liking they will leave them for days or until conditions are just right to suit their fancy; and if conditions remain unfavorable, they will, within a reasonable time, remove the eggs and eat them. The mere fact that Mr. Couper removed these frames to another hive does not in any way prove to me that there was any thing wrong with the eggs, but that the conditions in the second hive were similar to those in the first, and therefore the bees would not hatch them. I have tried some interesting experiments along this line. I will give the result of one.

As there was no honey coming in from the natural flow I placed a division-board feeder in the fourth section of the hive, giving a pint of syrup at a feed. After the queen had filled the first comb full of eggs she moved to the second frame. The bees, meanwhile, had been at work drawing this comb down and storing syrup. After the queen had deposited a large number of eggs in this comb I stopped feeding, and watched results. The bees ceased to draw down comb, and commenced to remove the eggs laid by the queen. They would destroy them as fast as the queen laid them. After they had destroyed all the eggs but about as many as would go in a $2\frac{1}{2}$ -inch circle I again commenced feeding. These eggs had lain in the cells between four and seven days. The bees now began to take care of them and hatched them. Now, Mr. Editor, if I had not tried feeding again, these eggs would not have hatched, but would have been destroyed; but when the conditions were right to suit them they hatched them, and not before. A queen will lay sometimes whether conditions are right or wrong. The bees seem to determine these conditions to a great extent. This hive was not short of supplies in the comb, having plenty of sealed honey.

BEES TRANSFERRING THE EGGS OF THE QUEEN.

Can or do the bees sometimes carry eggs and place them in the cells? Yes. I caged a queen for four days in a hive that I had prepared with starters before shaking again on full sheets of foundation—a case of American foul brood. The bees drew down the starters and carried the eggs from the queen-cage, taking them from the wire where the queen had deposited them in bunches, and distributed them as nicely as the queen would have done. This can not be disputed.

WHY BEES SLEEP IN CELLS CONTAINING EGGS.

Mr. Arthur C. Miller, page 663, Nov. 1, says, "Bees sleep, and do a lot of it." Let us grant it. Does it follow that they crawl into a cell simply to sleep? I doubt this statement. And, again, "Their presence has nothing to do with the hatching of the egg." Is this true? I wonder, Mr. Editor, that they persist in sleeping in the cells that contain eggs. Why not sleep in cells that have no eggs? Has locality any thing to do with this? I have watched this very

closely, and I have failed to note an egg hatching in a cell that a bee had not spent considerable time in, and I also note that they do not spend any time *sleeping* in a cell of new comb unless there are eggs in it. As to whether a bee's head ever touches an egg in the cell I can not say. I have made my observations with a powerful magnifying-glass, and the sun shining through the comb; but I have invariably found that there was a bee in the cell on the opposite side. I have never been able to look through a comb and tell how close a bee's head was to an egg. If I could look between the head and the egg I might be able to determine this point; but I know of no way that one can look through a bee in a cell to determine how close its head is to an egg, nor to reverse it and look through the bottom of an empty cell so as to see how close the egg on the other side is to the head of the bee.

PACKING POLLEN IN THE CELLS.

Let me add to what Mr. Miller has to say about bees packing pollen in the cells, that never, so far as my observation has gone, do the bees that bring the pollen into the hive, pack it into the cells, although they put the little pellets in the cells direct from their pollen-baskets. Other bees do the packing of the pellets.

I should like to have Mr. Miller explain to me why the pollen-bearers go through the crazy antics that they perform before and after depositing their load of pollen in the cell.

ECONOMY IN USE OF FOUNDATION WHEN THE SUPPLY IS LIMITED.

I have a scheme for nice straight all-worker comb when I am short of foundation, and can not give a whole sheet. I wire all my frames, then cut four strips as wide as I can afford to give, fastening to the top bar and sealing two of them to the end bars, dividing the distance between these with the other two. I then fill in with short pieces of starters on the top bar. The bees will draw down from the top starters and connect with the upright strips, bringing the whole together in a beautiful straight worker comb, and they will not build drone-storage comb between these strips.

Seattle, Wash.

The Bee.

BY N. W. SAUNDERS.

God, our precious loving savior,
Sendeth down the rain and shower,
Then the flower; then the honey-bee
That flies from flower to flower,
And hangs around the leaf and bower,
Seems like God's precious promises
He offers without price
If we will but accept.
Yet we selfish creatures sell the honey
For the sake of sordid money.
But, thanks to God for all we see,
Especially the honey-bee.

Heads of Grain from Different Fields

Notice to Iowa Beekeepers

The beekeepers of Fort Dodge and vicinity are trying to organize a beekeepers' association for the State of Iowa, under the auspices of the National Beekeepers' Association. We find, in looking over Bureau of Entomology Circular No. 138 of bee diseases, that there have been reported in Iowa up to May 10, 1911, seventeen counties that have American foul brood, and sixteen counties more in which it is suspected: European foul brood in four counties, and one suspected; and it is scattered from one side of the State to the other, as you will see if you check the counties as I have; and you will see we have enough foul brood to infect the entire State, even if this is all there is in it. For the benefit of those who have not received Circular No. 138 I will give a list of the counties that have the malady.

AMERICAN FOUL BROOD.		EUROPEAN.	
Present.	Suspected.	Present.	
Allamakee,	Appanoose,	Guthrie,	
Butler,	Buena Vista,	Johnson,	
Carroll,	Cherokee,	Linn,	
Clayton,	Davis,	Muscatine.	
Clinton,	Ida,		
Des Moines,	Marshall,		
Dickinson,	Monona,		
Fayette,	Monroe,		
Fremont,	Montgomery,		
Hardin,	Page,		
Linn,	Plymouth,		
Lyon,	Polk,		
Mills,	Scott,		
Pottawattamie,	Sioux,		
Sac,	Taylor,		
Story,	Vanburen.		
Woodbury.			

It seems to me that it is high time for the Iowa beekeeper to wake up and get busy. We must have inspectors in the field. In looking over the 42d Annual Report of the National Beekeepers' Association I find that they have 92 members in Iowa. What are you doing? Are you waiting for Messiah to rise up among you to carry the cross? The writer has been interested in the bee business only about twenty months; but he can see what the outcome will be if we do not get busy. We must get an appropriation, and that means delegates to the legislature. We have the law; but of what use is it with no funds to do the work? Are we going to fold our arms and let this malady run rampant through our State? We have a big job on our hands now, and it will be larger next year. Iowa beekeepers, don't stop and think, but think on the go, and don't think too long, and don't think the other fellow will do the work and you get the benefit. It may take a few sections of honey to defray the expenses now; but let it go and it means sections, supers, hives, bees, and all.

Mr. Frank C. Pellett, of Atlantic, made a request, through the columns of *GLEANINGS*, to the Iowa beekeepers to meet at Des Moines. A few responded, but not enough to organize. If we do not wake up now, our slumbers will be broken by that awful smell that comes from American foul brood. When I was at the National convention at Minneapolis last August I examined some American foul brood, and I imagined I could smell it on my hands all the afternoon, although I did not touch it at all.

I heard there was or has been a beekeepers' association in the west part of this State. If there is, we shall be glad to join it. I have not been able to locate it as yet. If any one can I will thank him if he will send me the address of the secretary; and if it is alive and in working order, I for one will join it and do what I can, and I believe I can get at least a dozen more to join. If we haven't an association in Iowa I should be glad to have all the beekeepers in this State who read this to write me and state their views, and also state what they are willing to do. If a few of us have to put our gloves and veils on and fight this appropriation through we shall have a hard time. Let all of us light up our smokers and get a rousing association in Iowa. If you have a representative or senator near you, or one you are acquainted with, go after him and the work will be easy.

Fort Dodge, Ia.

E. E. TOWNSEND.

[The following will show that a work has been started, at least.—ED.]

Iowa Has a Beekeepers' Association

On December 29 the Tri-state Beekeepers' Association met in Sioux City, and at that meeting the Iowa delegation organized the Iowa State Beekeepers' Association, with W. P. Southworth, of Salix, as president, C. L. Penny, of Lemars, secretary and treasurer. Three vice-presidents were chosen to boost the organization in their districts—Frank C. Pellett, Atlantic; Frank Coverdale, Delmar; and J. L. Strong, Clarinda.

As a committee on program for the next meeting, the following were named: C. L. Penny, J. B. Espy, R. A. Morgan.

Iowa needs the Association, and the Official Board will expect the enthusiastic co-operation of every beekeeper in the State, and each one is urged to send in his name and membership dues at once to the secretary, C. L. Penny, Lemars.

To be in harmony with the new constitution of the National Beekeepers' Association, when it is adopted, the membership dues are fixed at \$1.50 per year. Some may say that their dues are paid up in the National, and, therefore, they will delay sending their dues in to the State Association. Please do not do this, but send in your dues at once, and your membership in the National will be extended.

The new Association needs funds with which to begin work at once. The first business in hand will be to arrange for a big convention to be held at a time that will be most convenient for the largest number of beekeepers, when the organization will be perfected, and immediate steps will be taken to secure legislation to assist in checking the spread of bee diseases in the State.

No State in the Union can produce better honey than Iowa; and by mutual assistance the beekeepers can greatly increase their yields and improve market conditions.

Let every one interested in bee culture join the big cluster at once, by sending in his name and any suggestion that he has to offer.

Salix, Iowa. W. P. SOUTHWORTH, Pres.

Clipped Queens a Nuisance

Mr. Arthur C. Miller's article, page 755, Dec. 15, on clipped versus unclipped queens, also the footnote asking for reports on this subject, prompts me to make reply. For the past forty years I have kept bees more or less. My home was in Northern Vermont until 1904, when I sold out and came to this coast. For about a year I was without bees; but being a wild-bee hunter I soon had some. This was in the suburbs of Portland, Oregon. At one time I bought 7 stands. One being queenless, I broke it up. I sold 11 colonies the following spring, so that my present yard of 78 colonies is practically all from the woods. When near Portland, being confined to a city lot, with tall fir-trees on one side and choice fruit-trees on the other, I resorted to clipping. I had tried it twice in Vermont, and both times had condemned it; but as location makes a difference in some respects, I tried clipping here for the third time. I saw no difference in the work of the queens, and never did in Vermont; but trouble came when swarming came. The swarms would generally settle. The limbs had to be broken off my neighbors' fruit-trees, or the tall firs had to be climbed just the same. The swarms were hived in various ways, as deemed best, sometimes on the returning plan. In case of others, the queen was placed among the bees, where they had settled. But the great majority of the swarms, after being hived a short time, would begin to return to the parent hive. On examination a ball of bees would be found on the bottom-board, surrounding the poor clipped queen. The bees seemed to know that the queen was maimed and could not fulfil her natural office, viz., to depart with the swarm to a new locality, and so they would not tolerate her. If a swarm returned to the parent hive before I could find the clipped queen, or in my absence, it meant sure death to return her. If I could find the queen quickly, and replace her in the cluster about as soon as it began to form, she would be received all right. But bees are hard to deceive, so I clip no more.

I lost all of my fine yellow queens which I had reared with great care the year before, and was en-

tirely out of the stock solely because of clipping. A clipped queen in a hive is a nuisance, because she can not help herself. If in manipulating the hive she falls to the ground, she can not rise and return. I have seen them under the bottom-board with a cluster of bees that had to be returned several times before she could be captured, because she would crawl off in the grass. When a swarm issues I always look for the queen in front of the hive. As a great many, although their wings are perfect, can not fly, they keep trying to do so, and crawl up on the grass until their weight bends it down. Thus they keep well up on the grass, and are easily found. The clipped queen simply crawls, and thus goes lower and lower in the grass, and is hard to find. An unclipped queen can be caged for a long time if the swarm does not return; and when it does she can be placed among the bees, and no harm follows. If the swarm returns she can be returned also, and will come out again next day with the swarm. Very few unclipped queens are lost in swarming except by mixing. I have had scarcely any bees leave me at swarming time. If I am absent they generally hang until I return.

I do not say that there was this wholesale slaughter of clipped queens in Vermont, although I lost some. It was a general supersedure after clipping, not always immediately, but pretty sure to come. Treading on clipped queens while looking for them in the grass is another serious objection. I want my queens to be able to fly. Clipping is unnatural; and it has been my experience that it does more harm than good. I am a follower of nature, and am growing more confirmed in it.

Yacott, Wash., Jan. 1. H. E. HARRINGTON.

Shipping Bees to South America

Will you kindly furnish me information as to how to pack bees? When is the best time to leave with them from New York? Please give all the information necessary for the trip from here to South America.

Nashville, Tenn., Jan. 6.

F. L. GLISSON.

We have never shipped any bees during cold weather, and therefore can not give you any information based on experience. Bees, however, have been shipped while it was quite cold. They have been hauled by sledloads from one apiary to another; but in that case it is usually advisable to put them in some cellar rather than out on their summer stands, as the excitement caused by moving causes the cluster to expand too much, and the bees become chilled, causing many of them to die. It would be our judgment that it would not be practicable to ship bees to New York until along in the spring, when the weather begins to warm up. If you could once get them aboard the ship, we do not think there would be any trouble about sending them at any time of year.

If you feel that you must ship the bees during midwinter in order to get them to South America in time for a flow of honey, we would advise you to have the frames securely fastened in the hive, using wired combs in any case, and screen the hive, top and bottom. But while the bees are being shipped by rail to New York in cold weather, it is advisable to secure the cover close to the screen. In other words, shut off the top and bottom ventilation, leaving only that which would be provided by the entrance, which should also be screened. The hives should be put in a car and loaded on to straw in such a way that the frames will be parallel with the track. It will be very necessary to see that the hives are securely fastened down, because, if the cars are bumped back and forth, the hives will be broken open and bees liberated. If you have more hives than can be accommodated on the bottom of the car, you can arrange to put series of planking or boarding above the hives that are already on the bottom, and put another tier above. In that case, leave about a foot or more of space between the two tiers of hives.

Taking it all in all, we would hardly dare risk the experiment of shipping a carload of bees during the dead of winter to New York. They might go through in good order, and they might not.—ED.]

Regarding the Change of the California Foul-brood Law

P. C. Chadwick, of Redlands, Cal., page 39, Jan. 15, says that every one with whom he has talked or corresponded agrees with him that a more strin-

gent foul-brood law would be an excellent thing. I wonder whether Mr. Chadwick is familiar with the law of California, or whether it is a case of inspectors not doing their duty. The county board of supervisors of this State now appoints the inspectors, and every county has the right of an inspector upon a presentation of a petition. Generally the one they recommend is appointed. This same official can be removed by the same proceedings. Furthermore, most of the counties in Southern California have county ordinances for the further protection of the bee industry. Under the present law the bee-men have the situation in their own hands.

If a State inspector can do better, let us have one by all means; but we must consider that California is a large State, and his doing all the inspection would be impossible. So it is a question as to whether we would not have the same inspectors after all, they holding the office as deputies. There is but one question in my mind: Do we want the governor to appoint our inspector, or shall we name our own as the law now reads? The State inspector, too, would be harder to reach than the board of supervisors.

El Centro, Cal., Jan. 26.

A. F. WAGNER.

Paper for Wrapping Hives in the Spring

Mr. E. D. Townsend:—Having read your books, I notice you use white felt paper for protecting hives in the spring. Can you tell me the trade name of this paper, and where I can obtain it? The only samples I have obtained are asbestos and deadening felt, and neither one seems right.

East Syracuse, N. Y.

F. W. LESSER.

[Mr. Townsend replies:]

We too have had trouble of late to get the same sheathing we bought five or six years ago, as the manufacturers seem to have adopted something besides the spruce that was formerly used in the manufacture of this white paper. Hereafter we shall use a tarred felt paper for wrapping our hives for spring protection. If the cover of a ten-frame hive is removed, and paper, although only 32 inches wide, is put next to the bees it will come within 2 inches of the bottom of the hive. On an eight-frame hive it will be about the desired width. If four lath are used in fastening the paper at the bottom, as we advise, two of them being 20 inches long, and the other two the length of the width of the hive, and a nice job of wrapping is done, so that the paper is not torn, and if there are no wrinkles at the bottom, no heat to speak of can escape from a colony except at the entrance. On account of the molding of the handle extending at each end of the hive, we fold the paper at those corners of the hive. In this way an allowance can be made for this projection when folding.

We cut our papers 38 in. long, on account of the hand grips taking some extra paper. Otherwise 36 in. would be the right length to make the end and sides come even at the bottoms.

Now about the paper to use. If you will turn to Sears, Roebuck & Company's fall and winter catalog, page 600, bottom of first column, you will find three weights of tarred felt. No. 1 has 250, No. 2 has 400, and No. 3 has 500 square feet to the roll. The price a roll, 90 cents, is the same for any one of the three kinds. We have so far used the No. 2 heft, but will try some of the No. 3 this year. If the No. 3 is tough enough to stand putting on without tearing, it will be warm enough, without a doubt.

After this severe winter, many unprotected bees will be dead. Others will be between medium and good. It will be desirable next spring to foster these "weaklings," and papering will be found the most simple method, and the equal of any packing for spring protection.

Remus, Mich.

E. D. TOWNSEND.

Annual Meeting of the Oklahoma Beekeepers' Association, Stillwater, Jan. 18, 1912

There were present the smallest number of beekeepers that have ever attended a meeting of the Association; but nearly every number on the program was filled, either by the party being present or sending in his paper.

It was voted not to become a branch of the National Association at present, and the membership fee was reduced to 50 cents. The following resolutions were adopted:

Be it resolved by the Oklahoma Beekeepers' Association, that the A. and M. College and Experi-

ment Station be requested to carry on more experiments along apicultural lines, to determine the best race of bees, the most useful hive for the farmer beekeeper, the best manner of feeding bees, and also to experiment with different honey-plants.

We also request that an apiary be established at the College, and some help by lectures and exhibits on some of the future demonstration trains be given.

N. FRED GARDINER, Pres., Geary.
GEO. H. COULSON, Vice-pres., Cherokee.
G. C. BOARDMAN, Sec., Shawnee.
G. E. LEMON, Treas., Nash.

Ten Questions and Answers

1. In a bee-cellar, where should the thermometer be placed—at the bottom, top, or middle, to mark the required temperature of 42°?

2. In making nuclei, what is the best way to build them up to become strong colonies?

3. Do you approve of metal sheets for covers to hives? I have found that they retain moisture in great drops on the under side; or is there a way to overcome the moisture?

4. Is it all right to breed virgin queens to drones of the same hive?

5. What is the great objection to natural swarming?

6. Do the Italian bees excel all other species in working on red clover?

7. Do bees work continually, or take a rest after each load?

8. Just before uniting two colonies by alternating their combs, should they be smoked, and the selected queen caged and destroyed?

9. Is ripe alsike clover injurious as a feed for cattle because of danger of poison from the seed?

10. Which is the better to use for coating the inside of wooden feeders—paraffin or linseed oil?

Slate River, Ont., Jan. 20. J. M. MUNRO.

[1. We usually hang the thermometer in the middle of the cellar about half way between the lowest and highest hive of bees. In a good bee-cellar you are not likely to find as much difference in temperature between the floor and the ceiling as in a room where there is artificial heat, for instance, and where there is outside exposure.

2. We regard the Alexander plan for making increase as rather the best, all things considered; for the weak nuclei, being kept over the strong colony, have a better chance to keep warm and to breed up properly.

3. We do not approve of sheets of metal for covers of hives unless there is wood underneath. If we understand the type of covers you refer to, there is no wood lining. In that case you should use a thin cover underneath, known as a super cover.

4. If in breeding were kept up very long, it is likely that the stock would degenerate. But there is not much danger of this; for unless you are in an isolated locality several miles from bees in beebreeds, etc., you can not be sure that your virgins are mating with drones from the same colony they were reared in. Even under the conditions named you have to keep drone-guards over all other colonies if you wish to prevent the virgins from mating with other drones.

5. A certain amount of natural swarming is not objectionable in the least if some increase is wanted any way, and if the swarming is not kept up to such an extent that the strength of the colony is reduced so that less surplus honey is produced. Some strains of bees will swarm excessively. Some of the largest producers that we have ever known have said that they do not object to natural swarming; but they do object, of course, to after-swarming. Where the bees want to swarm, however, as soon as the colony becomes strong enough to work well in the supers, so that super work is retarded, then the trouble begins.

6. Some Italians excel all other bees in working on red clover; but it would not be true to say that all Italians do.

7. It is impossible to give a definite answer to this question, as it is likely that bees rest more or less, although we are not quite ready to believe that they rest after every trip. At a time when one can hear above all else the roar of bees working feverishly on the flowers during a good flow of honey, it seems impossible that there could be very much resting going on during the height of the work of the day.

8. We do not advise the plan of uniting that you

refer to here. It is better to have the bees unite very slowly, so that they hardly know a change has taken place. Placing one colony over another with a newspaper between is a good way. In either case it is well to kill the inferior queen first and then cage the other.

9. We have never heard that ripe alsike clover is injurious to cattle. We can not say positively; but we doubt whether there is much foundation for such a theory. If any of our readers have reason to think otherwise we should be glad to have them report.

10. Paraffin is rather better for coating the inside of feeders, as it has more body, and is more likely to prevent leaks.—ED.]

No Difference in Laying, Whether Queens are Clipped or Not

For the last five years I have clipped every laying queen I owned, and will continue to do so as long as the results are as satisfactory as they have been. I do not see the slightest difference between the laying of clipped and unclipped queens, as Arthur C. Miller outlines, nor do I see that they are handicapped in any way, for I have had clipped queens reach the age of four years. There is only one season of the year when I hesitate to perform the operation, and that is from the middle of February to the first week in March (that is, here in the South), for at that time there are so many old nursing bees with a very cranky disposition; and with the least indication that the queen is not acting normally they will attempt to ball her.

Elmendorf, Texas, Jan. 19. ALFRED L. HARTL.

Buckwheat Yielding Differently on Clay and Sandy Soil

Regarding the article on p. 713, Dec. 1, "Why Buckwheat Yields only in the Morning," if I am not mistaken it usually yields honey nearly or quite all day on sandy soil; but on clay or even clay loam, it seldom yields in the afternoon. The quality, too, is better on sandy soil.

From fifteen to twenty years ago there was a good deal of buckwheat raised near my yard in the northern part of Sauk County, Wisconsin, and I often took as much as 100 pounds of nearly pure buckwheat honey (extracted) from a single colony. I think some years the yard averaged that much. We get but little there now.

Veendum, Wis. E. M. HAYES.

Information Wanted on Producing Honey in Dis-eased Apiaries

There are many articles on curing foul brood, but only occasionally one on raising honey where the disease exists. We need good articles on systems of keeping bees healthy and raising extracted honey where the disease does exist. It is done. There are beekeepers in Utah who raise it by the carload in locations one-fourth to a half diseased.

North Yakima, Wash. V. V. DEXTER.

[This is an important question; for with European foul brood especially, it is almost impossible to get entirely rid of the disease at once; and if it gets into the locality, it is bound to keep cropping out to some extent for several years, although it can be kept well under control. We shall be glad to have our readers give us the benefit of their experience along this line.—ED.]

How Could Bees Separate Water from Syrup so Quickly?

In my article for Dec. 1, p. 717, I wrote about "little drops falling like rain." Dr. Miller and the editor, p. 4, Jan. 1, joined in saying that it was "water separated by the bees from the syrup." I do not care to question authority as good as this, but at the same time it gives rise to several questions in my mind that I should like to see answered for the good of the readers.

1. How long a time is required after a bee has taken up the syrup before it will be able to throw off the water? Those drops were falling all the way between the tub where the bees were feeding and the hives, six or eight rods away, but to a great extent near the tub, or before the bees could rise over the brim.

2. Was this water separated from the syrup while being taken, or after it had entered the honey sac?

3. We often notice after a rain during a flow of honey that nectar is very much thinner than at other times. Why does this filter not work at such times rather than force the bees to carry to the hives a large surplus of water that must be evaporated later?

4. In giving bees a rough handling until they have gorged themselves with honey, how often do we find them regurgitating it over themselves, forming a sticky mass?

This process, I understand, represents an abnormal condition; but so is feeding from tub unusual. Furthermore, on the grass all around the tub were scores of bees that I supposed were reclaiming the sweets that had been lost. I may be mistaken in this, but will try an experiment in the spring to make sure. I am satisfied for the present with what became of my 500 pounds of sugar. Moistened sugar for stimulative purposes and heavy syrup fed quickly for winter stores (both fed in the hive) suit me; and if I should try feeding in the open air again it would be with moistened sugar spread over a large surface.

Hartford, Ct.

A. W. YATES.

[1. The bees we have observed, eject the water ten or twenty feet from the ground after they arise from the outdoor feeder. Sometimes the spray is shot out when the bees are forty to fifty feet from the point of starting.

2. We do not know how the water is separated. The sweetened water they take up from the feeders may go into the honey sac or stomach, and the excess of water pass through the alimentary canal, and finally out at the anal opening; or the excess of water may be regurgitated and discharged from the mouth. It will be very difficult to determine just how the bees do it; but it is remarkable that such a fine spray should be shot out immediately after taking flight.

3. We do not know.

4. We have never noticed the bees regurgitating the honey over themselves when roughly handled; or, rather, we should say, we have never handled them so roughly that they have ever done this. We were not aware that rough handling of any sort would cause them to regurgitate the contents of their honey sacs or stomachs on themselves.

Referring to your last paragraph, we have no absolute means of knowing whether the spray discharged by the bees while in the air is water free from saccharine matter or sweetened water that is an excess of what they can carry. As the bees shoot out this spray when gathering nectar from the flowers as well as from feeders it would hardly seem to us that nature would be so wasteful that she would throw away sweetened water or nectar. In other words, it is our opinion that a bee is an economical machine. The principle of the survival of the fittest has made it so, apparently.

A. I. Root, some years ago, collected the spray that the bees shot out when they took wing while they were working on the spider plant. This spray was caught on dinner plates; and, so far as he could determine at the time, it was nothing but water, while the nectar from the spider plant, which he gathered with a tiny spoon, was distinctly sweet. Last fall we gathered on our hands some of the spray the bees shot out. On tasting it, it seemed to be nothing but water. However, it may have contained some saccharine matter. This is a matter that will have to be worked out by other observers. At all events, the spray such as we saw was thrown over the leaves and shrubbery near the outdoor feeder. The fact that our bees did not go after this after the feeders were emptied, and the further fact that it was evaporated without leaving a deposit, would seem to indicate that it was only water.

The bees that you found on the grass around the tub, we should be inclined to think, were those that had overgorged themselves and were unable then to take wing. Years ago, when our bees worked on the spider plant that gave such copious quantities of nectar, some bees would take such big drinks that they would drop down on the ground, apparently because they were overloaded. Presently they would take wing and away they would go.—ED.]

Bees Eject Water when Fed Maple Sap

I have supposed or taken it for granted that every one knew that bees eject water when carry-

ing very thin nectar. Chip a maple, blackwalnut, or any tree that has a sweet sap, or give bees water slightly sweetened, and stand between them and the sun while they are carrying it home, and you can very distinctly see them eject water.

MOTHER AND DAUGHTER TAKING TURNS.

I raise my best queens from an old queen when I put her off by herself with a few bees and a single frame of brood, and let the bees supersede her. For some time the mother and daughter will occupy the same comb—the former laying once in a while an egg, while the latter will work very industriously laying eggs. I usually find them about two inches apart, and they appear to keep about that distance habitually.

THREE-WHEELED CART.

I do not like a wheelbarrow for handling honey nor for any other purpose about a beeyard. I use a three-wheeled cart with springs. I had it made at South Bend, Ind., and shipped to me as freight.

MOTHS IN COLORADO.

Don't you let them make you believe that bee-moths are unknown in Colorado—both kinds too. Just lease a ranch to some Easterner who thinks there are none, and by the end of the season you will be able to find plenty.

Carlton, Col., Feb. 5.

JAMES H. WING.

Production of Extracted Honey Much More Profitable than Comb

Referring to the editorial, page 35, January 15, I will say that it does not pay us to ship any comb honey to market, except the fancy and No. 1 white. At the same time, there are so many unfinished sections that have cost us about as much to produce as the good grade that the profit in comb honey is almost wiped out, since we are obliged to accept practically extracted-honey prices for these culms. When it comes to dollars and cents, extracted honey has comb honey beat a mile. We can produce almost 2½ pounds of extracted honey to one of comb. In this country we are just finding that extracted honey is much more profitable.

Wyoming.

WINFIELD MARTIN.

Dampening 500 Sections Without Swelling the Wood

Remove the boards on the top side of the crate holding the sections and gently shake the loose sections end down until all of the V grooves are opposite and even. Drive two long sticks as wedges down to the bottom of the crate on one side so that the faces of the sections are tightly wedged together, and no water can reach them. Pick up the crate endwise and immerse it in a tub of water. The water will run through the open grooves, wetting them thoroughly, leaving the surfaces dry. Only one immersion is necessary, and the crate should be placed so as to drain at once. If kept covered the sections will stay damp all day, even in a dry climate.

Bakersfield, Cal.

L. C. CLARK.

Honey Cures Sick-headache

I have been informed by Captain Geo. H. White side, a very prominent citizen of Appalachicola, also manufacturer of ice there, that he has been cured of sick-headache by eating honey twice a day. His headache was so severe that he had to go to bed, sometimes for several days. You may rest assured that this comes from a man who stands high among the people of this State, and from one who is a Christian gentleman,

Sumatra, Fla.

A. B. MARCHANT.

Clipping Queens of Prime Swarms.

I follow the practice of clipping queens, and am not troubled much by supersEDURE; but I always avoid clipping the wings of a queen in a colony that is working well and is in normal condition.

Webster Springs, W. Va.

L. S. WEESE.

Pyrox fills the barrel with the apples that used to be on top. Write BOWKER INSECTICIDE Co., Boston, for book.

POULTRY DEPARTMENT

A. I. Root

STILL ANOTHER "BIG DISCOVERY;" HOW TO "GROW" YOUR OWN BUTTER ("AS WELL AS EGGS") IN YOUR OWN BACK YARD.

Our friend Philo certainly made a big stroke in introducing a short cut between "producer and consumer" when he made "a little poultry" in the back yard so much the fashion; and in spite of his fearful exaggeration at times, I think we can give him a vote of thanks; but I presume it never entered his mind that his "system" would give *butter* as well as *eggs*. Well, just listen. Mrs. Root wanted a hen for dinner; and as the Leghorn yard contains the oldest hens I went to this yard after dark and sampled a dozen hens by feeling of their pelvic bones to see which were the layers, until I found one very fat and plump, with the said bones very near together; and as a further precaution I shut her up alone for a week; but, as I expected, she never laid an egg. When she was killed there were no eggs anywhere near maturity; but she was literally a great lump of fat. When "tried out" there was over a pound of nice yellow "chicken oil." I suggested using it for butter; and by salting to taste I find it suits me even better than the butter that now costs us 50 cts. at our grocers. In consequence of the recent high prices for butter, many are using cotton-seed oil, others oleo, and Terry uses olive oil, even if it does cost away up, because he thinks it even more wholesome than cows' butter. Now, why in the world can we not utilize this chicken fat, especially when all we can get in the market is about 15 cts. per lb. for our fat chickens—sometimes a good deal less than that? Once more, we talk about the high price of grain. Isn't there money in feeding grain to chickens when, by using this fat in place of butter, it nets you 50 cts. per lb. or more? Once more, where we keep feed right before our chickens, as I do (in galvanized tubs hung from the roof), there will be now and then a hen, even with the Leghorns, that gets too fat. When this occurs, just sort out the suspected drones, as I have outlined, and make them take the place of butter. By the way, every little while somebody wants my opinion of the "Potter system." This system is a *help*, as I have outlined; but I very strongly object to the way in which Potter does business. The price for his little book is an outrage. His secret has been published over and over, and his requiring a signed pledge "not to divulge," etc., is ridiculous. I have two or more copies of the book; and when I sent the money for the book, but refused to sign my name to the pledge of secrecy, he or they signed my name to the pledge without any authority at all from me. What do you think of such a way of doing business? Finally, the discovery is not Potter's at all. It is simply the *Hogan* \$10.00 secret of years ago. Never mind the secret or secrets; let

us all get to work and grow our own butter in the back yard—at least until butter gets down a little from off its present "high stilts."

INFERTILE EGGS, AND HOW MUCH HAS THE INCUBATOR TO DO WITH IT?

Feb. 9, at ten o'clock A.M., I put 63 duck eggs into the incubator; and finding a sitting hen when gathering the eggs, at dusk, I took 13 eggs out of the incubator and placed them under the hen. I did this to satisfy myself in regard to several matters pertaining to incubation. Well, after six days I tested all the eggs, and, to my great surprise, I found ten infertile ones out of the fifty in the incubator, and not a single one under the sitting hen. Every egg of her 13 showed plain and clear marks of fertility. What have incubator manufacturers to say to this? So far as I can remember, no vendor has ever advertised his machine would give as many fertile eggs at the time of test as a sitting hen. If 20 per cent of all the eggs incubated are (with incubators) thrown out as infertile, is there not a big argument right here in favor of hens that has not been properly considered?

Last winter I had two or more hens that hatched every duck egg given them, and this winter I have had two hens bring off eleven ducks each, from eleven fertile eggs. There is at present (at least down here in Florida) a big complaint of eggs for the incubator being infertile; and this recalls to mind the down-east "secret" of starting all eggs under hens before placing them in the incubator. No doubt it would give excellent results if we could get enough hens to sit all at one time. This calls to mind the remark made several times recently, that the first week of incubation decides at least largely the outcome of the hatch. To test this I took thirteen eggs that a hen sat on, "off and on," for two or three days, and then "threw up the job." On testing them out I could not discover that they were in any way hastened along, or looked different from eggs that did not have this irregular heat for that length of time. In the first paragraph above I should have stated the incubator eggs showed larger and stronger germs than the eggs under the hen, indicating, probably, that I gave the eggs more heat than did "biddy." Could this explain the lack of fertility?

FIRELESS COOKERS, FIRELESS BROODERS, ETC., AND, FINALLY, THE "FIRE-LESS AEROPLANE."

By the way, when I spoke some time ago about a fireless incubator, several friends took the trouble to explain to me about a hot-water incubator, and called it *fireless*. Now, this is not only very old, but it is in no sense fireless, as you have to have a fire to heat the water, and a lamp is ever so

much simpler and less trouble. Now about the fireless aeroplane: My attention has just been called to it by the following, which I clip from the Cleveland *Plain Dealer*:

The Wright brothers announce the completion of a fireless aeroplane. Anybody can fly now—there's no danger of being drowned if one wears a cork belt, and why be hanged if you have a good lawyer? And now that one can't get burned up while flying, immortality is assured.

We don't know how much of the above is newspaper pleasantry and how much is truth; but the clipping calls to mind that I have neglected, until just now, to thank the kind friends who sent Christmas greetings to Mrs. Root and myself about the first of the New Year; and, while thanking you all, I want to tell you that I feel a lot of pride in pointing to a neat booklet on our center table that contains inside the following:

1911—1912

A MERRY CHRISTMAS AND A HAPPY NEW YEAR
WILBER WRIGHT,
ORVILLE WRIGHT,
KATHERINE WRIGHT.

When I go back to Ohio in May I am planning to go and see that "fireless" and then I can tell you more about it.

GRAPE FRUIT FOR RHEUMATISM.

I have before mentioned that grape fruit alone gave me almost immediate relief from a kidney trouble that had been afflicting me more or less for years. See the following:

A WONDERFUL FRUIT; MOST VALUABLE OF ALL.

Last month we mentioned that the grape fruit would cure rheumatism. We thought that this fact was universally known in Florida, but it seems that many of our people right where the grape fruit grows did not know that a most complete and sure cure grew right at their hands. The editor was a great sufferer from muscular rheumatism and sciatica, and it departed years ago. We do not hesitate to say that, if properly taken, and *only* if properly taken, the use of grape fruit will cure any case of rheumatism that can be found. It is nature's cure. The fruit must be eaten without sugar, or juice can be taken by a reamer, such as is used for extracting lemon juice, now made and sold generally for grape fruit, being larger. Take freely of the fruit or juice from the fruit with a spoon, preferably every morning before taking other food. In severe cases it may be well to take before each meal. Take fresh fruit. Do not think that a half of a stale fruit is of any benefit. Many who come to spend a winter in Florida with rheumatism can go back north free from the disease. But they rarely ever want to go permanently. This recipe is not copyrighted.—*Modello Tropical Topics*.

Kind Words From Our Customers.

Dear Mr. Root:—We read the Home papers first. The notes on temperance indicate an individual who is not afraid to fight for the right. Our home city, Knoxville, is a dry town. Our Tennessee cities and towns would all be "dry" if the law were not flagrantly and openly violated.

Louisville, Tenn., Nov. 20. SARAH A. RULE.

LOOKING FOR A CHANCE TO GET "A CRACK AT THE SALOONS."

I have been a subscriber to GLEANINGS for two or three years, and I am a friend of the bee, but looking all of the time for a chance to get a "crack" at the saloon. That God may bless you in your fight against intemperance and all other evils is my wish.

Cranbury, N. J., Oct. 9. OLIVER CROSHAW.

BEES AND RIGHTEOUSNESS.

A little over one year ago I knew nothing concerning bees. I became interested, and purchased one stand. They increased to three stands last summer. They wintered outdoors well, and now number five stands. They are a great pleasure to Mrs. Porter and myself, even if we received no profit other than the study of their lives and to work with them; but they will much more than supply us with honey.

We look forward to the coming of GLEANINGS to our home anxiously, and read it with great pleasure and profit. The Home department is especially interesting to us, and alone is well worth the cost of GLEANINGS. The stand you have taken on the liquor question, the instructions and advice, the application of God's word, must come from one led by the spirit of true patriotism and of Christ.

Byesville, O., July 12.

H. C. PORTER.

"GET THEE BEHIND ME, SATAN."

Mr. A. J. Root:—After reading your talks for Aug. 1, wherein you give your experience with the railroad agent, I feel I must tell you of a similar experience I had. When I was a boy, money was very scarce with me, so the temptation was that much stronger. I was walking along the road one day, and a little negro boy was just in front of me when I saw him drop a ten-cent piece. I picked it up and asked him if he had dropped any thing. He said no, so I put it in my pocket. As nearly as I can remember I kept it about a year. I could not stand it any longer, so I gave it back to him. A few years after that I went into a store in my home town and bought a dime's worth of something, and gave the clerk a fifty-cent piece. He gave me back 90 cents. There was the old tempter again. I took the money and walked out of the store. But the next day I carried it back to him. A few years after that I was in Richmond, Va., and wanted to go to a place on the James River. The fare was \$1.40. I gave the agent a \$2.00 note. He handed me back \$3.60. The tempter had left me then. I did not touch the notes, but took up the 60 cents and said, "That was a two-dollar bill I gave you." He appeared very much embarrassed, but said, "I am very much obliged to you." I know what it is to be a Christian, and I would not give it for all of the riches in the world. I know you are a busy man, and I don't know that you will read this; but I felt as if I must tell you about it.

R. Z. SCLATER.

"MARCHING ON."

I want to confess to taking, without your permission, from your excellent magazine a part of an article which appeared some time ago in regard to the amount of spirits consumed in the United States, and including it in an article I wrote for the *Baptist Record*, of Pella, Iowa. However, I gave you credit for what I took. Now tell me what's to pay.

One thing more. I notice in GLEANINGS, Oct. 15, you refer to John Brown as a martyr. Now, I want to say that I had two brothers with John Brown at Harper's Ferry. One was sacrificed to the Moloch slavery in Virginia, and the other afterward in Missouri. It does me good for this reason, and because he has been so misrepresented by historians, to hear John Brown spoken of as a martyr.

Again, I have read with much pleasure and profit your lay sermons, and hope to read more of them. I have been preaching the glorious old gospel myself for almost half a century; and the older I get, the more precious it seems. I am especially pleased with your warfare against the saloon. It seems to me the time has come when every lover of righteousness should speak out against this evil of all evils.

Shall tongues be mute when deeds are wrought?

Which well might shame extremest hell?

Shall freemen lock the indignant thought?

Shall pity's bosom cease to swell?

Shall honor bleed? shall truth succumb?

Shall pen and press and soil be dumb?

No! by each spot of haunted ground

Where freedom weeps, her children fall,

By Plymouth Rock, by Bunker's mound,

By all above, around, below,

Be ours the indignant answer—no!

Chambers, Neb., Sept. 29.

J. C. COPPOC.